



BENCHMARKS

The University of North Texas Computing Center Newsletter

VOLUME 12 NUMBER 7
September 1991

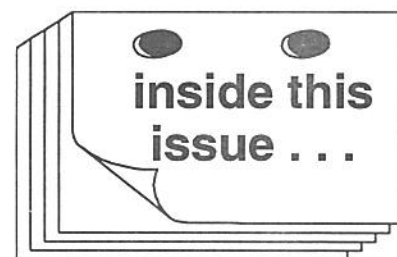
Academic Computing in Changing Times

By Dr. Philip Baczewski, Acting Director of Academic Computing (BITNET: AC12@UNTVM1)

Welcome to a new year of academic computing at the University of North Texas. There are a number of changes occurring in the academic computing environment on campus, many of which you will read about in this issue of *Benchmarks*. One of the major changes affecting students is the opening of general-access microcomputing labs in a number of locations on Campus (see the article on p. 5). While microcomputing has been available in the Willis Library lab and in Academic Computing's ISB 110 lab, the expansion of the number of labs available will provide most students with access to microcomputing in many of the buildings where they ordinarily take their classes.

A change which is more specific to the Computing Center is indicated by the byline of this article. Back in May, Dave Molta resigned as Director of Academic Computing Services and since that time I've been acting in that capacity. A new support division has also been formed within the Computing Center. Because of the increasing dependence on local area networks for support of microcomputing, the Microcomputer Support group (which previously reported to Academic Computing) and the Data Communications group (which reported to Computer Technical Services) have been brought together to form Network and Microcomputer Services. Bill Buntain, previously the Payroll and Personnel programming team leader, is acting as Director of this new division. The new area supports both academic and administrative users. For more information see "Reorganization and Staffing Changes in Network and Microcomputer Services" later in this issue. An overview of the changes to the Academic Computing environment can be found in "Academic Computing: the Year in Review" following this article.

Welcome Back!
Important Back to School
Information in this Issue



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SERVICES AVAILABLE TO USERS OF THE UNT COMPUTING FACILITIES

The UNT Computing Center is located in the Information Sciences Building (ISB), Room 119. Phone Numbers:

Computing Center: (817) 565-2324
ISB 110 Lab: (817) 565-3048
Network/Micro (817) 565-2316,
Services: (817) 565-2319
ISB I/O Area: (817) 565-3890
BA I/O Area: (817) 565-2350

All personnel listed below can be contacted either by calling the Computing Center or by sending them electronic mail on VM/CMS (USER-IDs follow each name. All IDs are on BITNET node UNTVM1).

Benchmarks - Claudia Lynch (AS04)

Information & ID-Codes; Disk Space Problems, Passwords - Pam Summers

Statistical/Research Support - George Morrow (AS01), Panu Sittiwong (PANU), Phanit Laosirirat (AC44), James Yarbrough (AC35)

Academic ADABAS/COM-LETE - Cathy Hardy (AC55)

CRSP & COMPUSTAT Problems - Panu Sittiwong (PANU), Phanit Laosirirat (AC44)

Student Programming Problems - CSCI Dept.: GAB Room 550; BCIS Dept.: BA Room 152

Problems with JCL, Operating Systems - ISB 110 Lab

Communication/Terminal Problems - Network/Micro Svs.

Data Entry; Test Scoring & Analysis - Betty Grise

Administrative Applications - Coy Hoggard

Printout Retrieval - ISB or BA I/O Operators

General Access Computer Labs - ISB 110, Chilton Hall 255, GAB 330 & 550, Business 330 & 332, Mathews 309, ISB 205A, Willis Library 134, Wooten Hall 120



DIALING-UP UNT COMPUTERS OVER THE TELEPHONE

Phone numbers for accessing UNT computing systems:

300 - 2400 BAUD: (817) 565-3300
300/1200 BAUD (817) 565-3499
300 - 9600 BAUD: (817) 565-3461
300 - 2400 BAUD: D/FW METRO 792-4140

Area code 214 must dial 817 before the METRO #.

In your communications program, set Data Bits to 7, Parity to S, and Stop Bits to 1. The dial-up numbers have an autobaud feature that requires you to hit the <RETURN> key repeatedly once connection with the remote modem is made. This is so that the receiving modem can determine the appropriate baud rate. When you have established a communications link, a prompt (# for non-metro numbers, UNTModems> for the metro lines) will appear on your screen and you can enter one of following commands to connect with the system of your choice.

Metro Lines UNTModems>	Non-Metro Lines #	System
N/A	CALL 8040	MUSIC/SP (line editing and PCWS)
Connect VM3270	CALL 3270	Academic Mainframe Full Screen (MUSIC, CMS Academic COM-LETE)
Connect DEC	CALL DEC	VAXcluster (VMS)
Connect Sol	CALL 900	Solbourne (UNIX)
Connect Ponder	CALL 780	Sequent (Ponder)
Connect Library	CALL 3000	UNT Libraries on-line card catalogue.

HOURS FOR UNIVERSITY OF NORTH TEXAS COMPUTER ACCESS AREAS : Fall 1991*

Day of Week	General Access Labs	ACS and Willis Library
Monday - Thursday	8 am to 10 pm	7:30 am to Midnight
Friday	8 am to 5 pm	7:30 am to 9 pm
Saturday	10 am to 5 pm	9 am to 9 pm
Sunday	1 pm to 10 pm	1 pm to Midnight

*Hours may vary. Check MUSIC/SP, VM, CMS, VAX or Solbourne NEWS and/or posted schedules for exceptions

The Computing Center RJE (for pick-up of output) is open 24 hours a day starting at 7 a.m. Monday through Midnight on Saturday. It is open from Noon to Midnight on Sunday.

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In order to provide the highest quality research and instructional environment, universities must lead the way in utilizing computer technology (or at least stay up at the front of the pack). The reality of academic computing in the latter twentieth century is that change is not only inevitable, it is required.

As we enter a new academic year, some thoughts on academic computing in general are in order. I recently attended a conference of Academic Computing Directors where one topic discussed was characterizing the nature of academic computing management. One of the best descriptions I heard was that management of academic computing is the management of constant change. This statement may be true for any computing environment, however, it is particularly applicable to the academic world, where the trend and in some cases the mission is to lead change in many professional and social aspects of the human endeavor. In order to provide the highest quality research and instructional environment, universities must lead the way in utilizing computer technology (or at least stay up at the front of the pack). The reality of academic computing in the latter twentieth century is that change is not only inevitable, it is required.

Computing is not yet a mature technology. This fact hits home when you realize that this year marks the tenth anniversary of the introduction of the IBM PC. When the PC was introduced in August of 1981, it came with 64K of memory as a standard configuration. Today, most PC users have outgrown the 640K that DOS can normally address and for the newer Microsoft Windows and OS/2 operating systems to perform to their maximum potential you don't discuss less than six or eight Megabytes. 64K to 8M represents a 128-fold increase in accessible memory. The Intel 8088 processor which drove the first PC operated at a speed

of 4.7 megahertz (MHz). The price competitive PC clones of today are being offered with an Intel 80386 processor running at 33 MHz. While the use of RAM has seemed to take a quantum leap from the 640K "barrier" to the 8M level, the increase in processor speed definitely seems to be on a geometric curve. From 4.7MHz in 1981, to 8MHz in 1985, to 16MHz in 1987, to 33MHz in 1990 - is there any doubt that 50MHz Intel 80486 machines will soon

Part of the mission of Academic Computing Services is to help facilitate [the] learning process. Whether it be via one of our computing short courses, a personal consultation, or just a reference to printed material on a topic, we see part of our job as helping enable access to information required to support instructional and research computing.

be price competitive? We have definitely not seen the end to the growth of computing power that will fit on the desk top, a fact evident when you examine this one example of PC technology and strengthened by examination of the newer RISC (Reduced Instruction Set Computing) processor technology.

Along with increased computing power come changes in operating systems and enhanced software products to take advantage of the additional computing power. Increases in computing power have changed the way we interact with computers. As Milton Glick, Provost at the University of

Iowa, recently put it, computing has reached the point that computers "can now afford to waste cycles being friendly." As computing power increases, I think computer operating systems will become more and more "friendly," however, keeping up with changes will still require a constant process of learning.

Part of the mission of Academic Computing Services is to help facilitate that learning process. Whether it be via one of our computing short courses, a personal consultation, or just a reference to printed material on a topic, we see part of our job as helping enable access to information required to support instructional and research computing. Towards that end, in this issue of *Benchmarks* you will find a number of announcements, references to documentation that we provide related to computing services, and discussions of

new services or facilities that are available with the new academic year. I hope that this issue will serve as a starting point to acquiring the information that you need to perform computing here in UNT's academic environment. If you don't find the information or reference here, please contact our offices at extension 2324 (ISB 119). If you have special concerns about academic computing on our campus, I would like to hear them. Please feel free to contact me at that same number and location. In the mean time, we'll roll up our sleeves to try to ensure that we have as productive an academic computing year as possible. ■

1990-91: The Academic Year in Review

By Dr. Philip Baczewski, Acting Director of Academic Computing (BITNET: AC12@UNTVM1)

A number of initiatives were outlined in last year's September issue of *Benchmarks*, most of which, I am glad to be able to say, have been achieved over the past year. What follows is a summary of some of the new additions to the centralized academic computing environment which have occurred over the past academic year.

The Systems

One of the more significant additions to the available central host systems is the Solbourne 5E/902 Sun-compatible UNIX system. This machine has exceeded our expectations in terms of performance with its two 30 RISC-MIPS processor boards so far able to handle most of the processing thrown their way. The system has, to this point, been dedicated to faculty and graduate student research, however, this semester a limited number of classroom USER-ID sets will be granted in order to test the impact of instructional use on the system capacity and performance. If you are interested in utilizing a UNIX system in your course, contact Billy Barron (ext. 2324) for more information. (An overview of recent operating system upgrade on the Solbourne will be presented in next month's issue of *Benchmarks*).

The migration of some research computing from the VAX/VMS system to the Solbourne UNIX system has lessened the load on the VAX. Therefore, we anticipate that more system capacity will be available on the VAX for instructional and general use. (The VAX has recently undergone an operating system upgrade which will also be covered in next month's issue.)

Those of you who survived the summer of 1990 on the IBM-compatible mainframe system will be glad to hear that the upgrade to the VM/XA 2.1 operating system has indeed helped meet the computing demands placed upon that system. In both previous fall and spring semesters, the MVS/SP batch system was able to handle instructional processing without the long queues that had been building up prior to the operating system upgrade. Indications are that response time on the VM/CMS system has also been satisfactory and we are continuing efforts to tune that system for maximum efficiency. An exciting addition to VM/CMS is TCP/IP for VM. This newly installed software will provide high-speed terminal communications and file transfer capabilities to CMS, while also providing Internet connectivity for CMS users. Watch CMS NEWS and the next issue of *Benchmarks* for further information on this topic.

The Software

A number of new software products were made available over the past year, the most significant of which may be the addition of UNIX to the operating systems available on central host systems. Along with this came a number of programs such as nn for USENET news reading, elm for electronic mail, and one of the newer additions, archie. Archie is a database of a large number of anonymous FTP sites and what files are available at them. Previously, archie was only accessible by TELNET. We now have a client program on the Solbourne called "archie" which uses distributed database technology to query a remote archie server. WAIS (Wide Area Information Servers) is a similar distributed client/server database system that runs across the

Internet. Databases on the Bible, the CIA World Factbook, Poetry, RFCs, Internet Resources Guide, and Internet Libraries are just a few of what is available. Articles on archie and WAIS will appear in the next issue of *Benchmarks*.

Another major software acquisition in relation to the UNIX system is SAS version 6.07. The UNIX platform is the first upon which this new version of SAS has been released. It incorporates a number of enhanced features including the use of the X-Window protocol to support a graphical user interface. Watch for more information on this version of SAS in future issues of *Benchmarks*.

Other software additions in the statistics category include SPSS for the Macintosh and for VM/CMS. The Macintosh version is installed for access from ISB 110, and a limited number of copies are available for faculty and staff on campus. The addition of SPSS to the VM/CMS environment provides for this powerful statistical processing language to be run in an interactive environment on the mainframe, offering a simpler alternative to submitting batch jobs to the MVS/SP system. For more information on these statistical offerings, contact Panu Sittiwong at extension 2324.

The Networks

As first announced in last September's issue of *Benchmarks*, a major project is underway to institute a campus-wide fiber-optic communications network. Phase one of that project is now complete, with fiber-optic cable run to 16 buildings and actively in use in 10 of those buildings. Plans are underway to implement phase two which will eventually provide connectivity to fourteen more buildings on campus. When complete, the fiber-optic network will support high-speed connection to local and wide area networks from almost any point on campus.

Network and Microcomputer Services has arranged for a volume purchase for

Novell's NetWare 386 version 3.11. This purchase will make the latest version of this PC network operating system available on-campus at a much lower cost than if copies had been purchased individually. For more information on the volume purchase, contact Randy Bell, Network Systems Support Manager, at extension 2316.

Wide area network access was greatly improved with the installation of a high-speed connection between UNT and the University of Texas at Dallas. This connection was a result of our joining Sesquinet, the National Science Foundation-supported regional network serving Texas. UNT is now only two "hops" away from the NSFnet backbone connection in Houston, making the many services available on the Internet even more accessible.

In May, the computer-access metro lines were replaced with new and more reliable modems accessible via one new number. This change resulted in some new commands for connecting to UNT host systems via the metro line system. The inside cover of this issue lists the new computer-access metro number as well as a summary of the commands used to connect to the various systems.

The Organization

As mentioned in the previous article, a new division has been formed within the Computing Center. Some additional changes have occurred with Academic Computing Services as well. Theresa Russell resigned her Administrative Assistant position to move on to employment in Albuquerque, New Mexico. Pam Summers has been hired in her place and will now be processing USER-ID requests as well as performing other administrative responsibilities. Pam most recently has been with the Krum ISD, where she single handedly set up and maintained their Apple Computer Lab in the elementary school. She has a Bachelor of Science degree in Secretarial Administration

from Texas Woman's University. Pam is proving to be a valuable addition to the Computing Center Staff.

A new addition to the Academic Computing Services staff is the position of ACS General Access Lab manager. We are very pleased to have hired Eric Lipscomb to serve in this capacity. Eric was previously Assistant Lab Manager in the School of Community Services. Eric will manage the operations of Academic Computing Service's lab in ISB 110 as well as manage the ACS Novell file server. Eric is also very active in the

General Access Lab Management committee and is available to consult with other General Access Lab managers.

The addition of an ACS Lab Manager provides for an Academic Computing staff which spans areas of expertise from a wide variety of platforms and applications. We hope to continue to serve you well in your utilization of the central computing facilities. Please continue to read *Benchmarks* for announcements of new and/or upgraded central academic computing resources. ■

Student Computing Facilities at UNT

By Eric Lipscomb, ACS General Access Lab Manager (Internet: lips@UNT.EDU)

Students who are familiar with the computing facilities available at the university will notice a few changes this fall. First, a number of independent computer labs have become part of the General Access Computer Lab Program that will take effect this fall. Any student of the University will be able to use these lab facilities for papers, class projects, and other class-related activities. The managers of these labs have been working through the summer to develop policies and procedures that each lab will use so students will get similar services no matter which facility they choose to use. The location and operating hours of the General Access Labs are indicated in the accompanying tables.

All of these labs have a number of IBM compatible computers on which students can run WordPerfect and other PC software. A few of the labs, namely the Academic Computing Services (ACS), College of Arts and Sciences, College of Education, and Willis Library, also have Macintosh computers with Microsoft Word and Microsoft Works installed. The College of Education lab also has a number of Apple II computers for students.

The complete General Access Lab Policies and Procedures are displayed at each of the participating labs, but a few of these policies bear special mention.

- ① All students wishing to use a lab must have a valid UNT Student ID. Driver's licenses and meal cards will not be accepted.
- ② Each student is guaranteed a minimum of one hour's use of a computer. If a lab has a waiting list, students in the lab will be asked to relinquish their computer if they have used it an hour or more. Those students may have their names put on the waiting list.
- ③ All student disks will be scanned for viruses by the Lab Monitor. Students who do not wish to have their disks scanned may leave their disks with the Lab Monitor while they use the lab.

General Information

- ❶ No eating, drinking, or smoking is allowed in the lab facilities.

Students, faculty, and staff are encouraged to attend any of the Intro to Micro Labs Short Courses for more detailed information about the services available in the General Access Labs. Anyone who is interested can fill out the Short Course sign-up sheet on the back page of this issue of *Benchmarks*.

On another note, students who had used the Graphics Lab in the basement of the Information Sciences Building will find that it no longer exists. At the end of the second summer session of classes, the equipment that was located in the Graphics Lab was transferred to two other locations. The Macintosh computers were moved to the Academic Computing Services Lab in ISB 110, and the 386-based PCs and the plotters were transferred to the Industrial Technology Department, which will open an AutoCAD lab facility sometime in the fall. All of the software and services available on the Macs in the Graphics Lab will still be available in the ISB 110 lab. ■

Do You Have Surplus Terminals?

If your department plans on surplus-ing any working VT100 or higher compatible terminals (such as Televideo 970s, MicroTerm 740s, Wyse — NO Telex, ADM 3A, or Mime 2A *please*), please contact Billy Barron, VAX/UNIX System Manager (ext. 2324). He will help to find them a home somewhere else on campus. ■

Location of General Access Labs

<i>Computer Lab</i>	<i>Location</i>
ACS	ISB 110
Chilton Hall	Chilton Hall 255
College of Arts and Sciences	GAB 330 and 550
College of Business	Business 330 and 332
College of Education	Matthews 309
School of Library and Information Science	ISB 205A
Willis Library	Willis Library 134
Wooten Hall	Wooten Hall 120

Hours of Computer Lab Operation

<i>Day of Week</i>	<i>General Access Labs</i>	<i>ACS and Willis Library</i>
Monday - Thursday	8 am to 10 pm	7:30 am to Midnight
Friday	8 am to 5 pm	7:30 am to 9 pm
Saturday	10 am to 5 pm	9 am to 9 pm
Sunday	1 pm to 10 pm	1 pm to Midnight

Network and Microcomputer Services

By Bill Buntain, Acting Director of Network and Microcomputer Services

The recently established Network and Microcomputer Services section of the Computing Center is divided into three functional areas:

- Microcomputer Applications Support
- Network Systems Support
- Data Communications

Organization

The Microcomputer Applications Support and Network Systems Support groups were previously the Microcomputer Support group within Academic Computing and Data Communications, previously a part of Mainframe Technical Services. The new organization recognizes that the main thrust in data communications at North Texas today is the support of the expansion of local area networks (LANs) and wide area networks (WANs) and that Microcomputer Support is a shared service to both academic and administrative computing.

Microcomputer Applications Support is managed by Kyle Capps and has primary responsibility for end-user application support, training, documentation, site license administration and administration of the Computing Center's departmental network. Network Systems Support is managed by Randy Bell and has primary responsibility for support of the Novell NetWare operating systems (including technical support of general access labs) and support of various network gateways. Data Communications is managed by Mike Maner and has primary responsibility for development and maintenance of campus-wide network backbones and support of other data communications hardware and software, including 3270 technology devices and local departmental thinwire and 10BaseT networks.

New Trouble Call Procedure

As part of the Computing Center's reorganization, the procedure for handling data communications trouble calls has been changed. In the past calls for Microcomputer Support were routed through ext. 2316 and calls for Data Communications assistance were routed through the Computing Center's front office, ext. 2324. Under the new arrangement all calls for Network and Microcomputer Services are processed through ext. 2316.

Current Projects

Current projects the Network and Microcomputer Services area is involved in include extension of the fiber optics backbone, support of the investigation of campus-wide electronic mail alternative platforms, and evaluation of SNA gateway alternatives. We are also developing plans to extend the networks in Terrill Hall, the Information Science Building, the Administration Building, and the Science Research Building. ■

Staff Activities

By Claudia Lynch, *Benchmarks* Editor
(BITNET: AS04@UNTVM1)

Summer is typically a dynamic time in the Computing Center. Student employees leave positions and new ones are hired. People attend conferences, work on projects that *can't* be done during the long semesters, work on projects that *must* be done before the fall semester, and of course, take vacations and then return to play "catch-up." Following are some of the activities that occurred this summer.

- "Another use of the Internet: Libraries Online Catalogs," an article by **Billy Barron**, VAX/UNIX System Manager, was published in the July 1991 issue of *ConneXions* — *The Interoperability Report* (Volume 5, No. 7). The issue of *ConneXions* in which Barron's article appeared, focused on "The Changing Face of the Internet."
- **Richard Harris**, Associate Vice President for Computing, **Coy Hoggard**, Director of Administrative Computing, **Dr. Philip Baczewski**, Acting Director of Academic Computing, **Bill Buntain**, Acting Director of Network and Microcomputer Services, and **Stan Sawyer**, Assistant to the Associate Vice President for Computing attended the Texas Association for State Systems for Computing and Communications (TASSCC) Summer Conference in Austin on July 21-23. The theme of this year's conference was "The 1990s: A Decade for Quality."
- **Bill Buntain**, Acting Director of Network and Microcomputer Services and **Dr. Philip Baczewski**, Acting Director of Academic Computing, attended the 22nd Annual Seminar on Academic Computing at Snowmass Village, Colorado on August 4-7. Both Buntain and Bac-

zewski attended the *General Directors' Seminar* as well as the *New Directors' Seminar*. The theme of the *General Directors' Seminar* was "An Ounce of Image is Worth a Ton of Text: High Bandwidth, High Storage, High Anxiety!". The *New Directors' Seminar* was actually "A Survival Training Workshop."

We have had some new employees join our staff this summer and some leave. Following is a list of those employees, their full or part-time status (FT or PT) and the area of the Computing Center in which they work or worked.

New Employees Since June 1

- **Christina Owen** (PT) — Network and Microcomputer Services: Microcomputer Applications Support.
- **Cliff Littlefield** (PT) — Receptionist.
- **Jeffrey Richison** (PT) — Production Services: Job Distribution Assistant.
- **Pam Summers** (FT) — Administrative Assistant.
- **Rickey Cooper** (PT) — Computer Operations: Computer Equipment Operator.
- **Bertha Williams** (FT) — Production Services: Data Entry Operator.
- **Mark Thacker** (FT) — Network and Microcomputer Services: Microcomputer Applications Support — CCI LAN Manager.
- **Ali Bardia** (PT) — Computer Operations: I/O Consultant.
- **Eric Lipscomb** (FT) — Academic Computing: General Access Lab Manager.
- **Shang Foo** (PT) — Computer Operations: I/O Consultant.
- **Gratian Perez** (PT) — Computer Operations: I/O Consultant.
- **James Yarbrough** (PT) — Academic Computing: Statistical Services — Statistical Consultant.

Please see STAFF on page 9.



Documentation Available from Academic Computing Services

By Claudia Lynch, *Benchmarks* Editor and Documentation Services Manager (BITNET: AS04@UNTVM1)

Academic Computing Services is committed to providing quality services to the academic community here at UNT. Throughout this newsletter you will see references to various services available to faculty and students, and many cases, staff members. One of these services is the production and dispersal of free documentation on a variety of topics of interest to computer users on this campus.

The following documentation is available to faculty, staff, and students — when appropriate — in ISB Room 119 — the University of North Texas Computing Center main office. Additionally, a notebook of most of these documents is being placed in each General Access Lab for reference purposes. Please note that this list may not remain completely accurate for very long, since documents are continually being created and updated.

General Information

- *Software - What We Have and What We Support* : Software Reference Material.
- *Welcome to the University of North Texas Computing Center*: Computing Center Informational Handout.
- *System Command Guide*: Command Cross-reference Material.
- *Policies and Procedures for Academic Computing*.

MUSIC/SP Reference Material

- *Introduction to MUSIC/SP*.
- *Waterloo BASIC on MUSIC/SP*.
- *Introduction to Personal Workstation (PCWS)*.
- *An Introduction to the Supervisor Privilege* : MUSIC/SP Reference Material for Instructors with class accounts.

CMS Reference Material

- *A User's Guide to Electronic Mail on CMS*.
- *Introduction to the Conversational Monitor System (CMS)*.

General Information

COM-LETE Reference Material

- *Notes on Using COM-LETE.*
- *The COM-LETE Mail System: Administrative COM-LETE Reference Material*

MVS Reference Material

- *Introduction to IBM Job Control Language.*

Statistical Packages

Miscellaneous

- *A User's Guide to the University of North Texas Computing Center Statistical Program Library: Manual for old NTSU Statistical Procedures - Version III*
- *Introduction to COMPUSTAT II.*

SPSS

- *Introduction to SPSS.*
- *SPSS/PC+.*

SAS

- *Introduction to SAS.*
- *SAS-PC.*

VAXcluster Reference Material

- *Introduction to VAX/VMS.*
- *Introduction to Instructor Material on VAX/VMS: VAX/VMS Reference Material for Instructors with class accounts.*
- *Editing With EDT.*

Solbourne Reference Material

- *An Introduction to Display Editing with vi.*
- *Introduction to UNIX*

Wide Area Network Reference Material

- *An Introduction to BITNET.*
- *Making Connections.*
- *The Texas Higher Education Network: THENET Documentation*
- *The Internet Accessing On-Line Bibliographic Databases: On-Line Bibliographic Reference Material.* This large document is available for reference only in the ISB 110 General Access Lab, College of Business Lab, Willis Library General Access Lab, GAB 550 Lab.
- *Accessing On-Line Bibliographic Databases in the North Texas Area:* This document is a subset of the larger one above.
- *ANU News Reference Guide.*
- *ANU News Users Guide.*

Communications

- *Introduction to PROCOMM.*
- *Using MS-Kermit.*
- *Using the 3270 Protocol Converter at UNT.*
- *Connecting PCs to Host Computers at UNT.*
- *Using CUTCP Telnet/FTP.*

Microcomputers

Microcomputer Networks

- *Academic Departmental Microcomputer Networks.*
- *Introduction to NOVELL NETWARE for Supervisors.*

- *Introduction to NOVELL NETWARE.*

Operating Systems

- *MS-DOS In-depth.*
- *Introduction to Microcomputers, DOS (Disk Operating System), and Hard Disk Management.*

Text Processing

- *Introduction to WordPerfect Version 5.1.*
- *WordPerfect 5.1: Merge Capabilities.*

Spread Sheets

- *Lotus 1-2-3.*
- *Introduction to PlanPerfect 5.0.*
- *Introduction to dBASE IV: dBASE IV Reference Material*

WordPerfect Office

- *WordPerfect Office, Version 3.0: Shell, Mail, Scheduler/Calendar.* ■

Staff continued from page 8.

Employee Resignations Since June 1

- **Deirdree Hayes (FT)** — Administrative Computing: Student Services.
- **Theresa Russell (FT)** — Administrative Assistant.
- **Lea Keck (FT)** — Production Services: Data Entry Operator.
- **David Mora (PT)** — Computer Operations: Computer Equipment Operator. ■

General Information



The Computing Center is offering the following short courses for the fall 1991 semester. Please pre-register to attend (a registration form can be found at the end of this issue). A maximum of 10 people will be admitted to each of the courses held in ISB 110. A maximum of 8 people will be admitted to each of the courses held in ISB 123.

PLEASE NOTE: Faculty and students have first priority to register for these classes. All people registering for hands-on (ISB 110) HDS, VAX and/or UNIX courses should have current USER-IDs. Applications for USER-IDs are available in the Computing Center main office (ISB 119).

HDS, VAX, AND UNIX COURSES

- 1. Introduction to MUSIC/SP:** Introductory sessions on MUSIC/SP will be held in the Science Library (ISB 110) on a monthly basis beginning the first part of September. **NO PRE-REGISTRATION IS REQUIRED FOR THESE COURSES.** Consult the ISB 110 Lab (565-3048) for a schedule of classes and/or to request a class on a specific day. All courses will be taught by ISB 110 Lab staff.
- 2. Introduction to IBM Job Control Language (JCL)** — Two two-hour sessions to be held in the Academic Computing Conference Room (ISB 123):
 - Tuesday, September 17: 3-5 p.m. Instructor: George Morrow
 - Wednesday, November 20: 2-4 p.m. Instructor: George Morrow
- 3. Introduction to CMS** — Three two-hour sessions to be held in the Science Library (ISB 110) Additional courses may be scheduled through the ISB 110 Lab, just as with the MUSIC/SP courses:
 - Tuesday, September 3: 3:00-5:00 p.m. Instructor: Cathy Hardy
 - Wednesday, October 2: 10:00 a.m.-Noon Instructor: George Morrow
 - Tuesday, November 5: 3:00-5:00 p.m. Instructor: Cathy Hardy
- 4. Introduction to VAX/VMS** — A two-hour session to be held in the Science Library (ISB 110):
 - Tuesday, September 24: 3:00-5:00 p.m. Instructor: Staff
- 5. Introduction to UNIX** — A two-hour session to be held in the Science Library (ISB 110):
 - Tuesday, October 15: 3:00-5:00 p.m. Instructor: Marc St.-Gil

- 6. Introduction to vi** — A one-hour session to be held in the Science Library (ISB 110):

- Thursday, October 17:
4:00-5:00 p.m.
Instructor: Marc St.-Gil

STATISTICAL PACKAGE COURSES

- 1. Introduction to SAS** — This course or prior knowledge of SAS is a pre-requisite for all other SAS courses. A two-hour session to be held in the Science Library (ISB 110):
 - Thursday, September 5:
2:00-4:00 p.m.
Instructor: Panu Sittiwong
- 2. Introduction to SPSS** — A two-hour session to be held in the Academic Computing Conference Room (ISB 123):
 - Wednesday, September 11:
1:00-4:00 p.m.
Instructor: James Yarbrough
- 3. Introduction to SAS on CMS** — A one-hour session to be held in the Science Library (ISB 110):
 - Tuesday, September 10:
3:00-4:00 p.m.
Instructor: Panu Sittiwong
- 4. Introduction to SAS on UNIX** — A one-hour session to be held in the Science Library (ISB 110):
 - Tuesday, November 19:
4:00-5:00 p.m.
Instructor: Panu Sittiwong
- 5. Introduction to SAS PC** — Prior knowledge of the SAS command language or attendance in the Intro to SAS course is required. A one-hour session to be held in the Science Library (ISB 110):
 - Monday, September 16:
4:00-5:00 p.m.
Instructor: Phanit Laosirirat
- 6. Introduction to SPSS PC +** — Prior knowledge of the SPSS command language or attendance in the Intro to SPSS course is required. A three-hour session to be

General Information

held in the Science Library (ISB 110):

- Thursday, September 19:
2:00-5:00 p.m.
Instructor: Phanit Laosirirat

WIDE AREA NETWORK COURSES

1. **Introduction to BITNET** — Prior knowledge of at least one of the following interactive operating systems is required: CMS, MVS, VAX/VMS. A two-hour session to be held in the Computing Center Conference Room (ISB 123):
 - Thursday, October 24:
3:00-5:00 p.m.
Instructor: Philip Baczewski
2. **Introduction to the Internet** — Prior knowledge of at least one of the following interactive operating systems is required: VAX/VMS, UNIX, MS-DOS, MAC. A one and a half-hour session to be held in the Computing Center Conference Room (ISB 123):
 - Tuesday, November 12:
3:30-5:00 p.m.
Instructor: Billy Barron
3. **Introduction to USENET** — Prior knowledge of at least one of the following interactive operating systems is required: VAX/VMS, UNIX, MS-DOS, MAC. A one-hour session to be held in the Computing Center Conference Room (ISB 123):
 - Monday, November 18:
4:00-5:00 p.m.
Instructor: Staff
4. **Introduction to CUTCP/Telnet** — Prior knowledge of DOS and the Internet is required. A two-hour session to be held in the Computing Center Conference Room (ISB 123):
 - Thursday, November 14:
3:00-5:00 p.m.
Instructor: Marc St.-Gil

MICROCOMPUTER COURSES

1. **Introduction to Microcomputer Labs** — Three one-hour sessions to be held in the Science Library (ISB 110) Additional courses may be scheduled through the ISB 110 Lab just as with the MUSIC/SP and CMS courses:
 - Tuesday, September 3:
9:30-10:30 a.m.
Instructor: Eric Lipscomb
 - Wednesday, September 4:
3:00-4:00 p.m.
Instructor: Eric Lipscomb
 - Monday, September 9: 11:00 a.m.-Noon
Instructor: Eric Lipscomb
2. **Introduction to WordPerfect 5.1 for Students** — Prior knowledge of basic DOS commands required. Bring one 5 1/4" low density formatted diskette. If you are comfortable with WP 5.0 do not take this class. A three-hour session to be held in the Science Library (ISB 110):
 - Tuesday, October 29:
2:00-5:00 p.m.
Instructor: Sandy Franklin
3. **Introduction to Procomm Plus** — Two one-hour sessions to be held in the Academic Computing Conference Room (ISB 123):
 - Thursday, September 12:
3:00-4:00 p.m.
Instructor: Eric Lipscomb
 - Monday, November 4:
2:00-3:00 p.m.
Instructor: Eric Lipscomb
1. **Introduction to DOS for Students** — Two two-hour sessions to be held in the Science Library (ISB 110):
 - Wednesday, September 18:
2:00-4:00 p.m.
Instructor: Eric Lipscomb
 - Thursday, November 7: 9:30-11:30 a.m.
Instructor: Eric Lipscomb ■

Information Resources Council News

Minutes provided by Sue Harrison, IRC Recording Secretary

MAY MEETING

Information Resources Council met on Tuesday, May 21, 1991, and conducted items of business which are briefly summarized here:

Two new members of the Council were welcomed: Stephen Farish, representing the College of Music, and Sue Pierce, representing the Schools of Community Service and Human Resource Management.

Dr. Vondran reported that the IRC recommendation to collect a \$1 computer use fee for supporting General Access Computer Labs was accepted by the Information Resources Steering Committee. Vondran also reported on his meeting with Phil Diebel and Cengiz Capan concerning the proposed GACL fees (\$1, \$1.25, \$1.50). The consensus was that at least \$1 would be needed and perhaps a bit more. This fee would return to the individual school or college. There would be no reallocation of fees. Diebel will present to Board of Regents that at least \$1 or more would be justifiable. (This is in addition to the \$2 already being collected.)

Sue Pierce reported that the General Access Computer Laboratories Management committee has been meeting once a week and working on a document. This committee was broken into two committees: (1) account holders and (2) lab managers, who determine day to day operations.

Frank Forney of TCOM had asked to discuss the locus of control issue of microcomputer maintenance, as UNT and TCOM have similar organizational arrangements. Harris gave brief history of how the division between the two

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vice presidents over computing came about. Some members voiced concern that there is a coordination problem. After discussion, consensus was that appropriate time to consider any change in organization should coincide with the opening of the General Access Computing Labs.

Vondran reported that as a result of his meeting with Jim Curry, Wanda Mundy, Phil Diebel, and Cengiz Capan, Curry had agreed to support additional equipment not on approved list, specifically Macintosh computers.

Council members then discussed the use of micromaintenance fees now collected (which are course related fees). Consensus was that instead of the micromaintenance fee now collected, an across-the-board fee (\$.25 per credit hour) should be collected from all students to support equipment in GACL. Vondran will report this to Phil Diebel prior to the Board of Regents meeting.

Coy Hoggard reported that there is a draft Information Security Policy which is close to the final draft. The committee will meet on May 22 to review the document. The target is to distribute a document in time for the next meeting of IRC. There will actually be two documents, one on policy (procedures) and one on standards.

Sue Pierce distributed a document on the recommendations for the Computing and Data Communication Resource Acquisitions Policy and discussed suggested changes. She will distribute the Supported Computing Items List (SCIL) to Micromaintenance and Computing Center staff for updating before distributing the document and SCIL to IRC members for review prior to June 18 meeting when the IRC will vote on adoption of the policy.

Vondran distributed a memo from Joneel Harris concerning use of computer usage fees to upgrade the voice response hardware and software platforms supporting teleregistration. As an agenda item for the June 18 meeting, Carolyn Cunningham will propose

adding this as an item to be supported by student fees.

Richard Harris introduced Computing Center staff members: Philip Baczewski, Acting Director of Academic Computing, and Bill Buntain, Acting Director of Network and Microcomputer Support.

JUNE MEETING

The Information Resources Council met on Tuesday, June 18, 1991 and conducted items of business which are briefly summarized here:

Cengiz Capan reported on the General Access Computing Lab Management sub-committee that they plan to have a finished proposal to present to the IRC at the July 16 meeting. They will make every effort to get the documents to IRC members at least a week prior to that meeting, so that action can be taken on July 16. Their goal is to have an approved policy in place by September 1, 1991.

Joneel Harris brought before the IRC a memo that had been distributed with the Agenda for today's meeting which summarized the development of the Voice Response system in place at UNT. As stated in the memo, a SIMS committee is preparing a proposal for the acquisition of an upgrade to the present Voice Response System which will be presented to the IRC, for its recommendation, at a later time. In response to a question regarding funding sources for the upgrade, Joneel stated that a funding source for an upgrade has not yet been identified.

Steve Miller presented his sub-committee's Information Security Policy (distributed to IRC members with the Agenda for today's meeting), action on which will be taken at the next IRC meeting. Miller asked for comments on the policy from anyone before the next meeting. A question was raised by Paul Schlieve concerning the provision of adequate personnel to implement the Security Policy. Richard Harris commented that it is clear that this policy could easily need a full-time person to coordinate it.

Steve Miller expressed his gratitude to his sub-committee and especially to Bill Buntain, as editor of the policy.

Paul Schlieve reported that his task force on Electronic Mail has met once and has begun an inventory of what is used on campus. To their knowledge 14 unique mail systems presently are in production, not counting two obscure Unix systems. The committee has decided they have a huge task and have reached a preliminary consensus that WordPerfect Office is so entrenched on the campus that it would not be reasonable to remove it at the present time. A recommendation is forthcoming to hire an electronic mail specialist whose task would be to extend electronic mail to everyone who doesn't have it now and who will evaluate the current mail systems. His committee has collected a list of desired features for electronic mail and it will be working to evaluate more products to see how they compare with the products currently in use. The committee is considering a recommendation that there be only one electronic mail system for each platform in use across campus in order to minimize the need for additional staff. Schlieve asked for input on this subject to him or any of his committee members.

Sue Pierce presented her sub-committee's recommendation for changes to the Computing and Data Communication Resource Acquisitions policy, which were distributed in a policy draft and cover memo prior to today's meeting. Pierce stated that the committee's general consensus was that the policy didn't need very much revision but rather needed to be brought to the attention of the university community. A couple of technical information changes regarding DIR requirements will be incorporated into the final document; and a suggestion about including the Purchasing Department in the acquisition approval will be considered for inclusion in the final draft. Final approval of this policy as well as consideration of the Supported Computing Items List was deferred to the next meeting. ■

USENET News Changes

By Billy Barron, VAX/UNIX Systems Manager (BITNET: BILLY@UNTVMX)

This summer, the UNT USENET news network was reorganized. The changes were as follows:

- ❶ Instead of news articles being stored on the VAX and Solo (Computer Sciences), all articles are now only kept on the Solbourne. Other machines, such as VAX, Sequent, and Morticia (formerly Sonne) are remote reading the articles off the Solbourne over the Ethernet. While this sounds like it is slow, it is not. One of the big benefits is that it has reduced VAX cpu and disk load. After an initial problem with ANU News crashing due to a Solbourne news problem, the change has worked well.
- ❷ The addition of several new news hierarchies:
 - **ALT** - Alternative news-groups. This is a weird set of groups that are loosely managed.
 - **BIT** - A majority of BITNET LISTSERV mailing lists are available under the BIT hierarchy (see "The List of the Month" on the following page). It is highly recommended that VAX and Solbourne users use the newsgroups instead of subscribing to the mailing lists.
 - **BIZ** - Business related groups. Most of them are computer related.

Please see USENET on page 15

The Network Connection

By Dr. Philip Baczewski, Acting Director of Academic Computing, BITNET INFOREP (BITNET: AC12@UNTVM1)

*This Column is a continuing feature of **Benchmarks** intended to present news and information on various aspects of wide area networks.*

This month, "The BITNET Connection" officially becomes "The Network Connection." When this column began in March of 1989, the intention was to increase awareness of BITNET among members of the University community and to provide insights into the effective use of wide area networking. Although the University had been a member of the BITNET network since 1985, even by 1989, use of BITNET had yet to become widespread on the UNT Campus. In the intervening years, however, much has changed on the networking landscape. The use of BITNET seems fairly commonplace these days, possibly due to educational efforts on the part of Academic Computing Services (including this column), but more probably because of the increasing awareness of the wide-area networking on the part of faculty, whether it be from their counterparts at other universities or through professional academic affiliations.

As awareness of wide area networking has increased, so has UNT's access to wide-area networks. After the initial 1985 connection to BITNET, the next major addition of networking services came in October of 1987 when the University joined THENET (at that time named TEXNET). This affiliation provided DECNET connectivity to many other VAX computers in the State of Texas as well as access to the ARPA-Internet and associated networks. Since that time, the ARPA-Internet has been replaced in function by NSFnet, UNT has joined Sesquinet, the NSFnet provider for Texas, and our wide area network communication line to campus has been upgraded to T1 speed (approximately 1.5 Megabits per second).¹

It has become increasingly difficult to discuss BITNET without including the Internet somewhere in the conversation. There now exists practically seamless transmission of mail between the two networks, so that the "BITNET address" someone gives you could actually be an Internet address. Many network mailing lists include membership on both BITNET and the Internet. Many of the BITNET LISTSERV mailing lists are available as a subset of the USENET mailing lists transmitted, among other methods, via the Internet. While the two networks are still operationally quite different,² they are becoming more and more interrelated in their functionality.

Hence the name change of this column. Future offerings in this column will include information on BITNET, the Internet (NSFnet), and other related wide area networking topics. The significance of the NSFnet to all faculty and staff has greatly increased in the past few years. Originally created to provide remote access to six supercomputer sites around the country, NSFnet has grown to become most universities'

¹ See "A UNT Wide Area Networking Chronology" on page 15.

² See "The BITNET Connection" column "You Can't Do That . . ." *Benchmarks*, September, 1990, p. 29

access point to the diverse set of networks which make up the Internet. Access to NSFnet has meant access to a large body of software available via FTP (File Transfer Protocol), remote log-in to library card catalog systems world wide, and access to many other services. Additionally, with the availability of TCP/IP on the VM/CMS system, all major UNT central computer host systems can now access the Internet.³

It is clear that networks will drive the educational technology of the future. High-resolution digital imaging, digital video conferencing, and other multimedia applications all require a high "bandwidth" on the network. This trend is reflected in the move to establish a Gigabit-per-second national network for research and education.⁴ This National Research and Education Network (NREN) is currently proposed for creation in bills before the House and Senate. The White House has stated support for \$150 million in funding over one year, while the House and Senate Bills call for nearly \$3 billion over five years.⁵ The widespread support for this initiative indicates that passage in some form or another is very likely.

The evidence is that just as the eighties was the personal computing decade, the nineties is the networking decade. Wide area networking will be an important part of the picture. Keep reading "The Network Connection" for the latest information on using this expanding resource.

³ Watch for a related article in next month's *Benchmarks*.

⁴ Currently, the NSFnet connections run at 1.5 megabits (T1) or 45 megabits (T3) per second. A gigabit per second network, roughly eight hundred times faster than T1 speed, would greatly increase the amount of information which could travel between networked sites.

⁵ McCormick, John. "Progress on high-performance computing bill," *Newsbytes*, July 18, 1991. ■

LIST of the Month

Each month we will highlight one BITNET, Internet, or USENET Special Interest Group (SIG) mailing list. This month's list is actually a list of lists. The following are BITNET LISTSERV mailing lists which are carried as part of the USENET news network. You can monitor the messages on any of these BITNET lists by using ANUnews on the VAX or nn on the Solbourne rather than having to maintain your own individual subscription. If on your VAX or Solbourne user-ID you are currently subscribed to any of the lists below, you may wish to sign off and start reading the USENET versions. The content is the same and you can still post inquiries and message replies to the mailing lists. An added benefit of the USENET versions is that you can monitor some of the lists on an infrequent basis without having to continually subscribe and then sign off. For more information on ANUnews type **HELP ANUNEWS** from the VAX \$ prompt. For more information on nn type **man nn** from the shell prompt on the Solbourne.

bit.listserv.advice-l	bit.listserv.aix-l	bit.listserv.allmusic
bit.listserv.apple2-l	bit.listserv.applicat	bit.listserv.asm370
bit.listserv.big-lan	bit.listserv.biosph-l	bit.listserv.c18-l
bit.listserv.c370-l	bit.listserv.cdromlan	bit.listserv.christia
bit.listserv.cics-l	bit.listserv.cinema-l	bit.listserv.circplus
bit.listserv.cmispip-l	bit.listserv.commed	bit.listserv.cumrec-l
bit.listserv.cyber-l	bit.listserv.cwis-l	bit.listserv.db2-l
bit.listserv.dbase-l	bit.listserv.disarm-l	bit.listserv.eamtech
bit.listserv.edi-l	bit.listserv.edpolyan	bit.listserv.edtech
bit.listserv.emusic-l	bit.listserv.envbeh-l	bit.listserv.erl-l
bit.listserv.esl-l	bit.listserv.ethics-l	bit.listserv.fnord-l
bit.listserv.frac-l	bit.listserv.games-l	bit.listserv.gaynet
bit.listserv.gddm-l	bit.listserv.geodesic	bit.listserv.gguide
bit.listserv.gis-l	bit.listserv.gmast-l	bit.listserv.govdoc-l
bit.listserv.gutenberg	bit.listserv.hellas	bit.listserv.history
bit.listserv.i-amiga	bit.listserv.ibm-hesc	bit.listserv.ibm-main
bit.listserv.ibm-nets	bit.listserv.ibm7171	bit.listserv.ibmtp-l
bit.listserv.info-gcg	bit.listserv.infonets	bit.listserv.ingrafx
bit.listserv.isn	bit.listserv.jes2-l	bit.listserv.jnet-l
bit.listserv.l-heap	bit.listserv.l-vmctr	bit.listserv.lawsch-l
bit.listserv.liaison	bit.listserv.license	bit.listserv.linkfail
bit.listserv.literary	bit.listserv.lstsv-l	bit.listserv.mail-l
bit.listserv.mailbook	bit.listserv.mba-l	bit.listserv.mbu-l
bit.listserv.medlib-l	bit.listserv.mednews	bit.listserv.netnws-l
bit.listserv.new-list	bit.listserv.next-l	bit.listserv.nodmgt-l
bit.listserv.notis-l	bit.listserv.novell	bit.listserv.pacs-l
bit.listserv.page-l	bit.listserv.pagemakr	bit.listserv.pmdf-l
bit.listserv.politics	bit.listserv.power-l	bit.listserv.relusr-l
bit.listserv.rexxlist	bit.listserv.rhetoric	bit.listserv.rscsv2-l
bit.listserv.sas-l	bit.listserv.script-l	bit.listserv.scuba-l
bit.listserv.sganet	bit.listserv.simula	bit.listserv.sos-data
bit.listserv.spires-l	bit.listserv.sportpsy	bit.listserv.spssx-l
bit.listserv.sqlinfo	bit.listserv.stat-l	bit.listserv.tn3270-l
bit.listserv.trans-l	bit.listserv.travel-l	bit.listserv.ug-l
bit.listserv.uigis-l	bit.listserv.urep-l	bit.listserv.vfort-l
bit.listserv.vm-util	bit.listserv.vmx-l	bit.listserv.win3-l
bit.listserv.wp50-l	bit.listserv.xcult-l	bit.listserv.xedit-l
bit.listserv.xmailer		

Usenet continued from page 13.

- **GNU** - Groups about the Free Software Foundation's software products. We currently run their Emacs, C++, and GCC software on the Solbourne.
 - **INFO** - A handful of computer related groups.
 - **K12** - K12 covers education areas Kindergarten through twelfth grade.
 - **UNT** - local newsgroups for UNT campus. A procedure for adding new groups has not been determined as of yet.
 - **UT** - University of Texas groups (requested by Computer Sciences).
 - **UTCS** - University of Texas Computer Science (requested by Computer Sciences).
- ③ The names of a few groups have changed. For example:
- **ANUNews_LOCAL_QUESTIONS_AND_ANSWERS** is now: **UNT.NEWS.DISCUSSION**
 - **NOVELL** has become **BIT.LISTSERV.NOVELL** ■

CALL 3280 No Longer Available

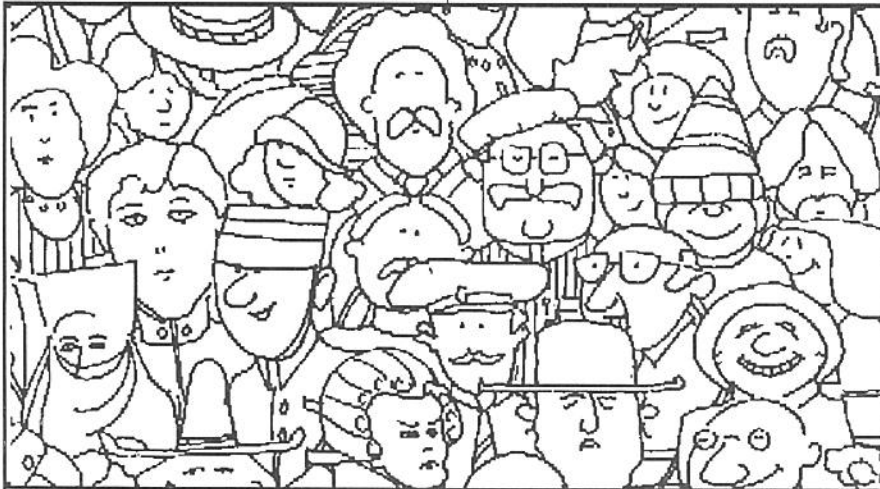
Due to the installation of new equipment, the CALL 3280 command on the Sytek LAN is no longer available. Change in the network configuration over the years has eliminated the need for the command. If you normally use CALL 3280 please use CALL 3270 instead. ■

A UNT Wide Area Networking Chronology

By Dr. Philip Baczewski, Acting Director of Academic Computing (BITNET: AC12@UNTVMI)

- **1983** — The UNT (NTSU) Computing Center acquires three VAX 11/780 systems one of which is used by the Department of Computer Sciences as a research machine and allows them to join the UUCP (Unix to Unix CoPy) network.
- **1985** — UNT (NTSU) becomes a member of BITNET, the national network consisting of colleges, universities, and research institutions. Membership in BITNET provides electronic mail and file transfer capabilities to hundreds of institutions in the U.S. and around the world.
- **1987** — UNT (NTSU) joins TEXNET, a DECNET network of VAX computers in the State of Texas. Later renamed THENET, this network provides remote log-in capability to many other systems in the state, as well as an indirect connection to the ARPA-Internet allowing file transfer from many remote sites.
 - The UNT (NTSU) Department of Computer Sciences joins CSNet, a network of computers in Computer Science departments nationwide.
- **1988** — The VAX/VMS system receives its first direct connection to the Arpa-Internet via the THENET DECNET connection. This connection provides full access to all Internet services.
- **1989** — ANUNews is installed on the VAX/VMS system providing the first general access to USENET news groups on the UNT Campus.
 - BITNET and CSNet announce a merger of their organizations. CREN (Corporation for Research and Educational Networking) is formed to become the governing body of the merged networks.
 - The UNT Department of Computer Sciences drops its affiliation with CSNet.
- **1990** — (June) ARPAnet is de-installed, leaving NSFnet to replace it as the primary Internet service for most colleges and universities as well as many government and commercial institutions.
 - (Summer) UNT joins Sesquinet, the regional network provider for NSFnet. UNT becomes a registered member of NSFnet and has direct access to the Internet.
 - (October) The wide-area network connection to UT-Dallas is upgraded to T1 speed (1.5 Megabits per second) providing high-speed access to the Internet and generally improved performance for all wide-area network utilization.
- **1991** — CREN announces that CSNet will cease to exist as a physically independent wide area network. Many of the CSNet services are already being provided via BITNET. ■

General Information

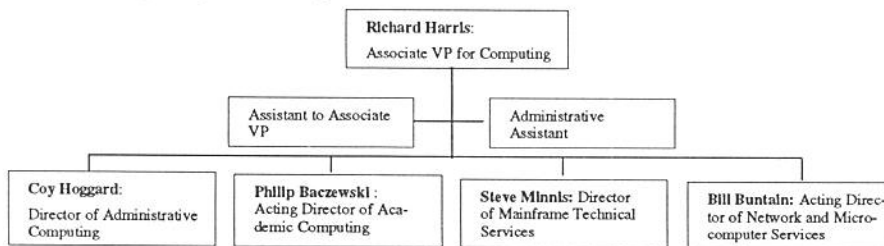


BENCHMARKS FORUM

*BENCHMARKS FORUM is intended to serve as a vehicle for answering questions that may be of general interest to the user community. If you have a question, please send electronic mail to the **Benchmarks** editor (BITNET: AS04@UNTVM1) or write it down and drop it by the Computing Center. We will try to answer it in the next issue.*

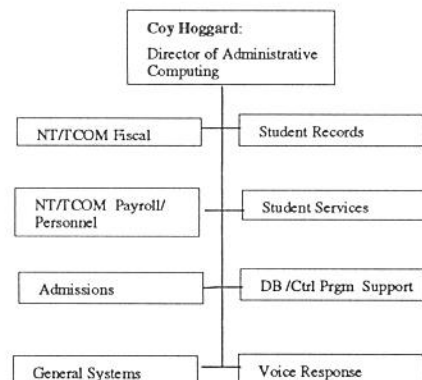
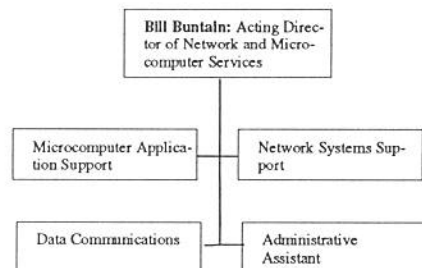
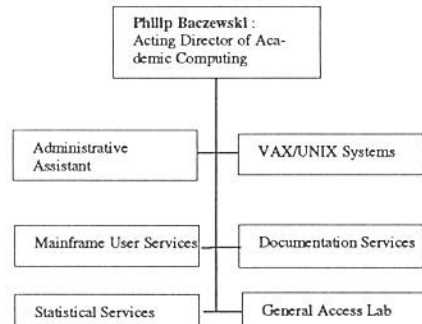
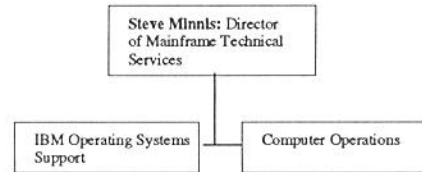
Question: I understand Microcomputer Support is not in Academic Computing Services anymore. Am I still going to be able to get help with my microcomputer problems?

Answer: You should continue to consult with the people in Micro Support just as you have done in the past. Their offices are in the same location as they were when they were a part of Academic Computing (although there is a long-range plan for them to move). The biggest change that most people will notice, with regard to the creation of the Network and Microcomputer Services group (see page 7 for more information) is that all microcomputer and communications "trouble calls" are now taken at the 2316 and 2319 extensions. Following are some partial diagrams of the current Computing Center organization. ■



Benchmarks Reader/User feedback is encouraged. Send all letters, suggestions, etc to (AS04@UNTVM1), FAX 817-565-4060 or to the Benchmarks Editor at:

**Academic Computing Services
University of N. Texas Computing Center
P.O. Box 13495, Denton, Texas 76203**



General Information

Calls For Papers, Conference Registration



We have received the following "calls" for conference registration and papers from various organizations.

Calls for Registration

- **SPSS User Exchange — November 18, 1991, Dallas, Tx.** Spend a day learning more about SPSS products and applications and meeting with a cross-section of SPSS users. To register call 1-800-253-2554. For more information contact: Kierith Ferrara, User Exchange Coordinator, 444 N. Michigan Ave., Chicago, IL 60611 Phone: 312-329-3537.

Call for Papers

- **1992 Joint Conference: Association for Literary and Linguistic Computing and Association for Computers and the Humanities — April 5-9, 1992. Christ Church, Oxford, England.** Submissions are invited on all areas of literary linguistic and humanities computing, including, but not limited to: text encoding; hypertext; text corpora; computational lexicography; statistical models; syntactic, semantic and other forms of text analysis; also computer applications in history, philosophy, music and other humanities disciplines. The deadline for submissions is **1 October 1991**. For more information contact: ALLC-ACH92, Centre for Humanities Computing, Oxford University Computing Service, 13 Banbury Road, Oxford OX2 6NN, England. Phone: 44-865-273200 FAX: 44-865-273275 E-Mail: ALLCACH@VAX.OX.AC.UK
- **1992 IFIP International Conference on Upper Layer Protocols, Architectures and Applications — May 20-22, 1992. University of British Columbia, Vancouver, Canada.** Papers are desired in, but not restricted to the following topic areas: Design, implementation, and experience with distributed applications; Application layer user agent models and designs; Application layer architectures; Application layer programming environments; Application communication protocols such as RPC, RO, FTS and multicast; Group communication models and services; Multimedia applications and communications; Interconnection of upper layer and application entities; Upper layer conformance and interoperability testing activities; Security and privacy; Management and operation of distributed services; Mobile communications and the application layer protocols; Upper layer network management and naming; Presentation and session layer issues; Abstract syntax notations and transfer syntaxes; The impact of very high-speed networking on the upper layers protocols. Deadline for submissions is **December 1, 1991**. For more information contact: Gerald Neufeld, North American Program Committee CoChair, Department of Computer Science, University of British Columbia, Vancouver, B.C., Canada, V6T 1W5 Phone: 1-6-4-228-4086 FAX: 1-604-228-5485 Internet: neufled@cs.ubc.ca
- **The IFIP/SEC'92 International Conference on Computer Security — May 27-29, 1992, Singapore.** The theme for IFIP/Sec'92 is "Computer Security and Control: From Small Systems to Large." Possible topics of submissions include, but are not limited to: Auditing the Small Systems Environment; Auditing Workstations; PC and Microcomputer Security; Security and Control of LANs and WANs; OSI Security and Management; GOSIP - Government OSI Protocol;

Electronic Data Interchange Security; Management and Control of Cryptographic Systems; Security in High Performance Transaction Systems; Data Security in Developing Countries; Software Property Rights; Trans-border Data Flows; ITSEC (IT Security Evaluation Criteria - The Whitebook); Database Security; Risk Assessment and Management; Legal Responses to Computer Crime/Privacy; Smart Cards for Information Systems Security; Biometric Systems for Access Control. The deadline for submissions is **December 1, 1991**. For more information contact: Mr. Guy G. Gable, Department of Information Systems and Computer Science, National University of Singapore, Singapore 0511. Phone: 65-772-2865 FAX: 65-777-1296 E-Mail: ISCGUYGG@NUSVM ■

NREN Still in the Works

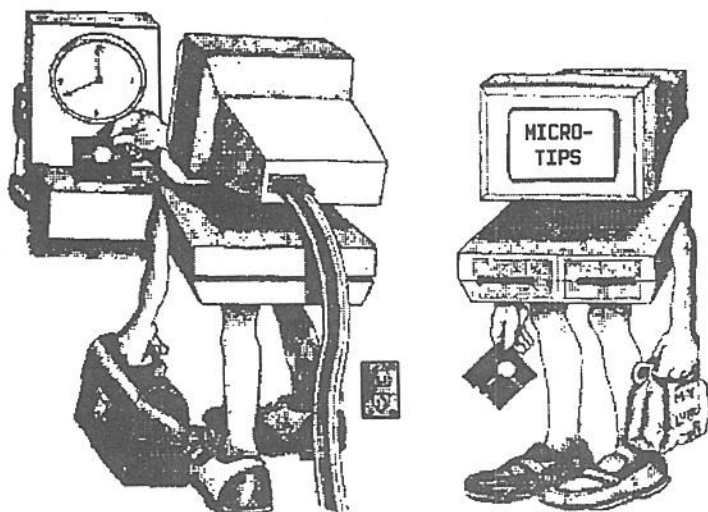
By Claudia Lynch, *Benchmarks* Editor
(BITNET: AS04@UNTVMI)

According to *Newsbytes*, an on-line news service (July 18 1991), The National Research and Education Network (NREN) bill is still making its way through Congress.

The May 1991 issue of *Benchmarks* (p. 16) reported on the efforts of Senator AL Gore (D-TN) and Representative George Brown (D-CA) to establish a national "information highway."

The most likely basis of NREN, if it is established, would be the National Science Foundation's NSFNet. Once established, it is believed that NREN would absorb Internet government and academic work and add primary and high school-level users.

More information on the status of NREN will be published in future issues of *Benchmarks*. ■



This column is intended to serve as a forum for sharing useful tips on making more productive use of microcomputers. If you have a tip that you feel may be of use to campus users, submit it to the **Benchmarks** editor for possible inclusion in a future issue.

Don't Forget the Drivers

By Claudia Lynch, *Benchmarks* Editor (BITNET: AS04@UNTVM1)

The computer industry is relentless in its production of newer and (so they always claim) better versions of software and hardware. Given this fact, it follows that most people who actively use computers upgrade those items from time to time. This is a good idea and everyone is encouraged to keep up with such things. However, don't forget to make sure that you have the proper *drivers* so that your software and hardware will work together the way you expect them to.

Device drivers are simply programs that instruct your particular hardware and software to work together in a specific way. Most of the time you're not even aware of their existence. When you don't have the proper driver, however, you may notice something is wrong very quickly.

For example, I recently changed from running programs in a stand-alone DOS environment to the multi-tasking Microsoft Windows platform. After many trials and tribulations, including migrating to a newer version of DOS, I was ready to go. But wait — what was wrong with my monitor? You guessed it, I had forgotten to arrange to get the Windows driver for the special monitor that I use (a VENTEK 2000 dual-page monitor). I called Ventek and arranged for them to upload the driver that I needed to our BBS. Once installed, everything looked great. I learned my lesson, though. What if Ventek hadn't written a Windows driver? That could have been a disaster. I might have convinced them to write one, but in the meantime my monitor wasn't very useful for my main activity — desktop publishing.

Another instance where drivers make a big difference is in printer usage. You should always make sure you have the proper drivers for your particular software and particular printer(s). Printer drivers are constantly being updated to support more print features and newer printer models. Oftentimes these drivers can be obtained from either the software manufacturer or the printer manufacturer.

The Computing Center recently purchased a new HP LaserJet IIISi, but guess what, not all the printer drivers we needed came with it. HP publishes a very nice document

called the *LaserJet Journal*, that keeps users of the LaserJet products up-to-date with what's going on at Hewlett Packard. The July/August issue had an article called "New printer drivers for IIISi" that alerted us to the presence of some new drivers. Following are the drivers and how you can get them:

- **MultiMate 4.0** — Available free from Ashton-Tate customer service (800) 227-4866.
- **Windows 3.0** — Available free from the HP Driver Distribution Center (303) 353-7650.
- **Word 5.5, 5.0** — Available free from the HP Driver Distribution Center (303) 353-7650.
- **WordPerfect 5.1, 5.0** — Available free from the HP Driver Distribution Center (303) 353-7650.
- **WordStar 6.0** — \$15 for driver shipping and handling, \$25 for upgrade to latest revision (E). Call WordStar (800) 227-5609.

Warning: PC Tools 7.0 and Norton Utilities 6.0

By Sandy Franklin, Microcomputer Applications Support

The July 19, 1991 issue of *PC Week* has warnings to users about PC Tools Version 7.0. Major problems have occurred - so much so that users are going back to Version 6 until the problems are fixed. PC Tools has announced it will ship a maintenance release in September to registered users. **We do not recommend installation of Version 7 until the maintenance release is out.**

The same issue of *PC Week* also warned users of Norton Utilities Version 6.0 that major problems occur when trying to use their latest release. The FAT and boot sectors on a hard disk can be destroyed, Windows,

QEMM and Desqview files are corrupted, etc. Norton utilities will release a maintenance update in the next few weeks. You will have to contact the company, Symantec Corp., to get the maintenance release, called 6.01.

Protecting Your Files (DOS)

By Mark J. Winer, State University of New York at Buffalo (BITNET: MICMARK@UBVMS)

This is an edited version of an article that originally appeared in the January 1991 State University of New York Computing and Information Technology Newsletter — Interface (page 27).

Most people keep hundreds of files on their hard disk. Some of these get updated on a regular basis, but others are not supposed to be changed, let alone removed. Because you want to prevent accidental changes to some of your files, you might want to use the **ATTRIB** command. This command has the ability to protect a file against an unwanted change.

In order to determine whether a file is read-only (protected), use the **ATTRIB** command at the DOS prompt as shown below:

```
C:> attrib filename
```

You will then get a response similar to the following:

```
A R C:>filename
```

If the letter R appears next to the filename it means that the file is read-only and cannot be modified or deleted. If you have a file that is not protected and you wish to make it read-only, issue the following command:

```
C:> attrib +r filename
```

This will turn on the file's read-only attribute, protecting it against modification. Once protected, if you try to

DELETE or ERASE the file, the computer will respond ACCESS DENIED. Even if you try to edit the file through application software, you'll receive an error message when you attempt to save changes to disk.

Turning the read-only protection off is as easy as turning it on. Just issue the following command at the DOS prompt:

```
C:> attrib -r filename
```

Once you issue this command, the file can then be modified or deleted.

You may find this command quite intriguing, but don't count on it to protect your data from deletion. While I use **ATTRIB** as a safeguard against accidental deletions, it was not intended to be a failsafe method to protect data. If someone purposely wants to delete a file, they can simply use **ATTRIB** to change the read-only attribute, then delete it. ■

WordPerfect Users Group Fall Schedule

By Sandy Franklin, Microcomputer Applications Support

The WordPerfect Users Group continues to meet each month on Fridays in Marquis 105 from 2-3 p.m.. The first part of the meeting will be a demonstration on a special topic, the rest of the meeting will be devoted to questions and answers.

The following demonstrations are planned for this fall.

- **September 20** — Topic: Installation of an HP Laserjet with additional cartridges, and soft fonts.
- **October 18** — Topic: Equation graphics.
- **November 15** — Topic: Math capabilities of WP 5.1 and the use of math in Tables.
- **December 13** — Topic: The use of the Label function for more than just mailing labels. ■



Virus Update

Compiled by Claudia Lynch, Benchmarks Editor (BITNET: AS04@UNTVM1)

We have received the following virus-related information.

- Joseph W. Popp, the alleged mastermind behind the AIDS Introductory Information Trojan Diskette has been set to go to trial November 11 at Southwark Crown Court, London.
- Bill Arnold (barnold@watson.ibm.com) wrote to VIRUS-L (Jun 13, 1991):

Readers might want to play with an undocumented /MBR switch in DOS 5 FDISK. It appears to force FDISK to overwrite the code in a PC/PS2 master boot record, without touching the partition table, and in limited testing on a half dozen machines it succeeded in cleaning up machines infected with the Stoned, the Stoned 2, and the Joshi 5 viruses. This was with the DOS 5 shipped by IBM, not Microsoft's DOS 5.

The Joshi can't be removed this way unless it isn't active in memory (e.g. cold boot from a write protected, uninfected bootable DOS 5 disk with a copy of FDISK on it).

The command line syntax tested was:

FDISK /MBR ■

VAXCLUSTER USAGE STATISTICS

May Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. User programs	Compiled Programs	13 13:43:41.34	56.0
2. GAUSSIAN	Molecular Modelling	4 06:32:29.27	17.6
3. NEWS	ANU News Utility	1 15:08:59.56	6.7
4. DISKEEPER	Disk Optimizer	1 13:29:55.85	6.4
5. BACKUP	Disk Backups	0 12:39:36.28	2.2
6. LOGINOUT	User Login	0 06:59:09.43	1.2
7. XZZZY	Chat Utility	0 06:47:56.96	1.2
8. MAIL_SERVER	VMS Mail Server	0 05:31:31.10	0.9
9. MAIL	VMS Mail	0 05:28:07.91	0.9
10. TPU	TPU Editor	0 03:29:42.31	0.6
Total		24 05:41:03.68	

May Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. LOGINOUT	User login	123105	29.3
2. SET	VMS Utility	51896	12.3
3. DIRECTORY	VMS Utility	36664	8.7
4. DELETE	VMS Utility	35532	8.4
5. User programs	Compiled Programs	29564	7.0
6. SEND	BITNET message Utility	18641	4.4
7. MAIL_SERVER	VMS Mail Server	15895	3.8
8. SYSLOGIN	User Login	11654	2.8
9. SHOW	VMS Utility	10181	2.4
10. MAIL	VMS Mail Utility	8867	2.1
Total		420615	

June Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. User programs	Compiled Programs	10 09:56:20.36	41.9
2. GAUSSIAN	Molecular Modelling	8 18:45:49.22	35.4
3. NEWS	ANU News Utility	1 10:58:42.61	5.9
4. DISKEEPER	Disk Optimizer	1 21:30:37.83	3.6
5. BACKUP	Disk Backups	0 08:09:11.23	1.4
6. XZZZY	Chat Utility	0 06:25:47.56	1.1
7. ADA	Compiler	0 06:12:10.33	1.0
8. TPU	Editor	0 05:20:03.83	0.9
9. EDT	Editor	0 05:06:51.50	0.9
10. LOGINOUT	User Login	0 04:42:58.92	0.8
Total		24 20:04:55.29	

The Best of the BBS



Edited by Ken Corey,
VAX Programmer/ Op-
erator (BITNET: KENC
@UNTVAX)

Welcome to the **Best of the BBS** column. This column highlights some of the more interesting and useful discussions on the UNT BBS. For those of you not familiar with the BBS, here is how to log into the UNT BBS.

- Sign-on by typing **CALL DEC** at the LAN prompt and then entering **BBS** as your Username at the VAX prompt.
- If you are already logged-on to the VAX-cluster, type **BBS** at the \$ prompt.

The opinions expressed in this column do not necessarily reflect the views of Academic Computing Services or the Computing Center. Also, information in **Best of the BBS** has not been checked for accuracy.

Amiga

#2839 18-JUL-1991 16:01:12.04

Subject : **Kermit/ATALKIII help**

I am trying to download MSDOS.ZOO from the utility directory (Amiga) and am having no luck. Sysop sez setting must be 7s1, but Atalk doesn't allow this. Ascii downloads appear normal, but when I try the .zoo file, I only get 90 or 182 bytes, then a stream of errors and receive failure. Suggestions?

.....
#2848 Reply to #2839 18-JUL-1991 22:28:47.52

Subject : **RE: Kermit/ATALKIII help**

I've never tried Atalk myself. For the Amiga, I like Dave Wecker's vt100 because it does not take a ton of memory so it leaves more memory for background processing and games while I download. When

June Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. LOGINOUT	User login	80579	20.2
2. SET	VMS Utility	49115	12.3
3. DELETE	VMS Utility	39092	9.8
4. User programs	Compiled Programs	36324	9.1
5. DIRECTORY	VMS Utility	33710	8.5
6. EDT	Editor	14144	3.6
7. SEND	BITNET message Utility	13592	3.4
8. SYSLOGIN	User Login	12727	3.2
9. MAIL_SERVER	VMS Mail Server	12124	3.0
10. MAIL	VMS Mail Utility	7967	2.0
Total		398236	

July Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. GAUSSIAN	Molecular Modelling	3 17:40:42.90	30.2
2. User programs	Compiled Programs	2 20:09:08.07	23.0
3. NEWS	ANU News Utility	1 06:20:59.81	10.2
4. DISKEEPER	Disk Optimizer	1 04:47:25.52	9.7
5. LISP	Lisp Interpreter	0 23:04:46.98	7.8
6. BACKUP	Disk Backups	0 07:39:34.56	2.6
7. MAIL_SERVER	VMS Mail Server	0 05:07:10.83	1.7
8. XYZZY	Chat Utility	0 04:55:05.26	1.7
9. LOGINOUT	User Login	0 04:32:30.07	1.5
10. MAIL	VMS Mail Utility	0 04:14:24.57	1.4
Total		12 08:52:29.38	

July Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. LOGINOUT	User login	76466	22.8
2. SET	VMS Utility	49317	14.7
3. DELETE	VMS Utility	30616	9.1
4. DIRECTORY	VMS Utility	29147	8.7
5. User programs	Compiled Programs	27561	8.2
6. MAIL_SERVER	VMS Mail Server	13326	4.0
7. SYSLOGIN	User Login	12573	3.7
8. SEND	BITNET message Utility	10219	3.0
9. MAIL	VMS Mail Utility	7745	2.3
10. GAUSSIAN	Molecular Modelling	7423	2.2
Total		335893	

I need more features I like Handshake. VLT is nice, especially in it's Tek emulation but crashes occasionally, vlt was written to be used on the Amigas at the Stanford Linear Accelerator Center (Amigas are a lot cheaper than Tektronics graphics terminals). If your term program doesn't do the job chuck it. vt100 and vlt are public domain and Handshake is shareware.

#2850 Reply to #2841 18-JUL-1991 23:27:09.79

Subject : RE: Kermit/ATALKIII help

Thanks for the tip, but the Ami and the software belongs to someone who seems to download with ease. I was most impressed with the software as compared to ProComm given that I was able to get through to everything other than a successful dload w/o docs. My friend is in Wisconsin at the moment, or I would probably know what the prob is by now. I do appreciate your interest...

Communications

#2690 Reply to #2476 18-JUN-1991 16:47:21.11

Subject : RE: progress report

The problems associated with logging on to this BBS via the metro lines appear to be resolved.

Good Work!

#2775 2-JUL-1991 19:23:37.75

Subject : comm. software

i saw from your previous message that you use telix. how do you like it? i am currently using a dated version of procomm and i would like to upgrade. i just downloaded a copy of qmodem off of the bunkhouse but i haven't got it up and running yet. i guess i'm wondering if i'm wasting my time with qmodem if telix is better (in your opinion). thanks in advance.

#2779 Reply to #2775 3-JUL-1991 01:29:30.60

Subject : RE: comm. software

Actually Qmodem is REALLY powerful, and easy...problem is .. you have to run Kermit as an external protocol. The VT100 emulation works with the DEC just fine, but with the CMS 3270 it seems a little flaky, Qmodem also has ANSI scrollbar

SOLBOURNE USAGE STATISTICS

June Top Ten Programs: CPU Time Used

Program	Description	CPU Minutes	Percent of Total
1. g90	Gaussian 90	26597.1	85.4
2. fet	User Program	2463.2	7.9
3. update	Filesystem sync	592.7	1.9
4. in.telnetd	Telnet Daemon	235.6	0.4
5. nroff	Text Formatter	132.2	0.4
6. prel	Perl Language	108.6	0.3
7. dkbtrace	User Program	78.5	0.3
8. i2	User Program	68.8	0.2
9. colo	User Program	57.1	0.2
10. nsh	User Program	54.3	0.2
Total		30288.1	

June Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. sh	Bourne Shell	74366	22.6
2. is_able	Permissions Checker	37442	11.4
3. nroff	Text Formatter	14115	4.3
4. col	Column Program	13450	4.1
5. ls	Directory	13181	4.0
6. test	Comparison	8421	2.6
7. uncompress	Decompressor	7404	2.2
8. awk	Text Processing Language	7280	2.2
9. sed	Source Editor	6868	2.1
10. smail	Mail Delivery	6803	2.1
Total		175724	

July Top Ten Programs: CPU Time Used

Program	Description	CPU Minutes	Percent of Total
1. g90	Gaussian 90	46420.1	72.7
2. fet	User Program	10518.0	16.5
4. in.telnetd	Telnet Daemon	603.5	0.9
5. smail	Mail Delivery	463.3	0.7
6. strobe	User Program	390.0	0.6
7. nntpd	User Program	305.0	0.5
8. update	Filesystem sync	272.3	0.4
9. sh	Bourne Shell	199.9	0.3
9. ired	IRC Daemon	180.0	0.3
10. nroff	Text Formatter	180.0	0.3
Total		59537.6	

so you just roll your mouse upwards and you can see about 12 screens that you previously had looked at WITH ANSI color etc. I Personally recommend it for High Speed Modems and for people who like to modem on the fly (like me). John Bob says Check it out.

.....
#2780 Reply to #2775 3-JUL-1991 13:45:52.57

Subject : RE: comm. software

If you want to upgrade your procomm software, and you are a university student/staff/faculty member you can get Procomm Plus for free.

Just go to the ISB 110 lab in the Information Sciences Library.

.....
#2830 17-JUL-1991 18:42:45.10

Subject : TWU

Help Me! Somebody. I am having problems with getting on to the TWU on-line catalog (&Tymnet). They are both acting up in the same way. They are giving me garbage. Tymnet seems to be working fine but all the characters are unreadable ascii garbage, so I really don't know what is going on after I log-in. Someone help, and soon! My grades may depend on it! THANKS

.....
#2872 Reply to #2830 22-JUL-1991 14:34:11.64

Subject : RE: TWU

Try setting the PDS on your modem at O-7-1 with full duplex for TWU. I think that the settings are E-7-1 for Tymnet. Hope it works.

File Library

#2708 21-JUN-1991 16:38:16.05

Subject : FPROT 116

Eric uploaded FPROT 116 and forgot to mention it so I am. ;) FPROT is the cheapo, but good PC virus detection/removal/prevention package. 116 is the latest version.

.....
#2746 28-JUN-1991 13:39:37.20

Subject : Forth

A friend is looking for a PD Forth interpreter for the Ibm type systems. Any body out there have one that they can upload here, or know where I might go to find one. Thanks in advance.

July Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. sh	Bourne Shell	223442	18.3
2. smail	Mail Delivery	194198	15.9
3. is_able	Permissions Checker	68241	5.6
4. ls	Directory	63123	5.2
5. rm	Delete File	54885	4.5
6. egrep	User Program	50586	4.1
7. sed	Source Editor	38692	3.2
8. awk	Text Processing Language	36733	3.0
9. expr	User Program	18215	1.5
10. sort	User Program	18040	1.5
Total		766125	

#2792 Reply to #2746 4-JUL-1991
09:23:41.44

Subject : RE: Forth

I uploaded a public domain forth to the ibm.languages area. It is called MVPForth. There is some documentation with it, but not alot. One note of warning. Due to the way that the file manipulation is handled, if you are not very careful, you can wax a disk. I suggest that if you do any disk access that you use a floppy drive. The program does absolute disk sector accessing. It would be very easy to overwrite important information on a hard disk. It follows along with the standard forth characteristics.

#2875 23-JUL-1991 06:17:33.60

Subject : VIRUSSCAN version 80

OK, so I forgot to post this immediately. SUE me. :)

Version 80 of McAfee's VIRUSSCAN program has been uploaded to the IBM.IM-MUNE area. At this time, I only have SCAN up there. Have not had a chance to put up VSHEILD or CLEAN. Might get to them later.

#2953 3-AUG-1991 10:45:07.23

Subject : Kermit Upload

My settings are 2400, 8 bits, 1 stop bit, None parity and when I tried to upload Zterm.085.sit I recieved a message that said" MESSAGE FROM REMOTE KERMIT READS;

%KERMIT32-E-RMS32,FILE

SPECIFICATION SYNTAX ERROR FOR,

ZTERM.085.sit"

and I am calling 565-3300.

is kermit all the vax system supports, I have z modem, Xmodem etc. thanks for your help

#2955 Reply to #2953 3-AUG-1991
18:00:03.24

Subject : RE: Kermit Upload

Thanks for the additional information, Jim. Initially, it looks to me like the filename is causing the problem. The VAX doesn't like filenames with more than one period in them. You might try uploading the file as ZTERM085.SIT instead of ZTERM.085.sit. I *think* that will take care of the problem. Of course, let me know if it does not.

As far as transfer protocols, Kermit is the only protocol that will work on our dial-in system. I also would like to use protocols such as XMODEM and ZMODEM, and they've even been tested, but they just won't work across our WAN system.

#2959 5-AUG-1991 16:35:49.69

Subject : New KERMIT line settings

OK. We've changed the BBS default KERMIT line settings to match the rest of UNT's dialup system. When downloading files from the BBS, please use the following settings:

7 data bits
space parity
1 stop bit

I imagine that this change will generate a large number of questions at first. If you have difficulty with downloading, please verify that your line settings match those listed above. If other troubles persist, we'll look into them.

Thanks for your patience!

IBMPC

#2647 Reply to #2398 9-JUN-1991
08:30:43.66

Subject : RE: EMM

You might try QEMM as an expanded memory manager. I have it installed on my 386 SX and I am able to load device drivers and the like into high memory. This frees up memory in the lower 640K for programs. They have a version that is compatible with the 80286 based systems also. The version I am running is specific to the 80386 processor. It seems to work well with Windows 3.0 and I have yet to experience any "lock-up" problems.

Incidently, my system utilizes the NEAT chipset also. You may or may not have to disable RAM shadowing (if your system supports it) in order to load TSR's into the upper 384K.

#2657 Reply to #2653 10-JUN-1991
15:27:22.80

Subject : RE: EMM

I'm using QRAM, but as I understand it, it's a high memory and extended memory manager, but not EMM (reading from the back of the package). It's still great; I've got about 125k of various junk stuck up in high memory. :}

#2719 Reply to #2717 26-JUN-1991
02:45:29.86

Subject : RE: Denton area BBSes

big book 387 5155 it works, chuck just likes to fight with the phone co. sometimes. lighthouse 381 1024 it is busy almost all the time.

also there is Collosus, Shadow's Realm, The Bunkhouse and one part time one called The Rise of the Nighthawk (I don't have the #'s to these as I am a different com package) ALSO there used to be a MACintosh BBS around here but I never called it so I don't know if it is still around or not.

#2736 Reply to #2731 27-JUN-1991
11:26:36.03

Subject : RE: Dallas BBSesBBSes

The best two boards that I have found in Dallas are the ones at CompUSA (formerly Soft Warehouse) and one called Technoid's Toolbox. I mainly use these for downloading stuff. There is a lot of neat stuff on both of these boards. The only problem I have encountered is that it takes

a long time to look at all of it and the numbers are frequently busy during the day. The best time to get through is late in the evening. The numbers are as follows:

CompUSA 620-2255 or 620-7917

Technoid's Toolbox 226- 6017

Try them out and let me know what you think.

#2785 Reply to #2719 3-JUL-1991 16:12:57.30

Subject : RE: Denton area BBSES

Denton BBSES:

Lighthouse 381-1024

Mac Users 383-3268

Warp One (Mac) 565-9165

Bard's Tavern (C=) 381-9908

Bunkhouse 565-1385

Colossus 387-1426

Shadow's Realm 387-7471

Big Book 387-5155

Dan's Bar and Grill not up yet.

I'm sure I forgot a few. (i.e. Idiopathics, the sysop of which had his computer stolen)

Lake Dallas boards:

Lake Cities 497-6325

Alpha Drive: 497-4581

Andromeda (call this board!) 497-4110

MAC

#2855 19-JUL-1991 12:03:55.54

Subject : MS Afflicted Worker Needs Mac

An MS afflicted worker at the Archbishop Sheen Center needs a Mac LC or SE30 to aid him in communicating. Cost is an object. If you can help or provide assistance in any way, please call Linda Mallett at metro 214-350-6770 or post a message on this board to my attention. Your help is sincerely appreciated.

Programming

#2766 1-JUL-1991 12:24:24.05

Subject : Ghostscript

Does anyone out there have any experience with ghostscript? The version for the pc in particular. I have been playing with it over the weekend but the documentation is pretty weak. I've been slowly going over the source and have been contemplating rebuilding it and adding more printer support since I have not been able to make it print with the included support for epson

printers. Anyone with any experience out there that has had better luck than me?

Thanks in advance.

#2782 Reply to #2776 3-JUL-1991 13:53:40.62

Subject : RE: Ghostscript

Thanks for the reply. Ghostscript is a FSF project that implements a subset of the Postscript page description language. I played with it over last weekend but never got it to print with my printer. The documentation is really spartan but it comes with C source. I just didn't have the time to go through pages of source and was hoping that someone else out there has grappled with it and could save me a few hours by sharing their experience. The whole shooting match is on Sintel20. If you want to check it out have many megabytes of hard disk real estate waiting because between the executable, font files, device drivers, and the source it is really big. The source comes with a Turbo c/c++ makefile to rebuild so someone with the time and motivation could probably do pretty much anything that they want with it. The last couple of days I have also been looking at TeX. TeX (most people pronounce it "tech") is Donald Knuth's digital typesetting program if you are not familiar with it. I ran into the same problem with it. The 9-pin Epson driver will not drive the 9-pin Epson printer in my office. This evening, if I have time, I am going to try to produce output for 24-pin printers and HP LaserJet III's which is I really need anyway. All of the other software that I use have no problem with driving the Epson FX-86e in my office so I don't know what the deal is. I wanted to be able to preview my documents with TeX on the 9-pin before printing them off of the Sequent on Laserjet printers. They have TeX on the Sequent so I could just upload the .dvi files and print them there after I like the way I like them on the pc. TeX while not WYSIWYG like modern typesetting programs is extremely powerful for laying out technical papers with lots of mathematical formulae that nobody understands anyway :) Source is also available for TeX but I don't know where. I got the executable and fonts from wuarchive.wustl.edu but I didn't see source (I didn't really look) ■

VAX/UNIX NEWS

It Happened This Summer in VAXland

- **VMS 5.4-2 installed** — The VAX is now running the latest version of VMS, which is 5.4-2. Most of the changes were very minor and will not affect the majority of users. A couple of the more important changes are that some performance improvements were made in batch job handling and EVE (EDIT/TPU) now includes some new BOX commands, which act upon a box of text. For a detailed list of changes, look at the file SYSSHELP:VMSU2054.RELEASE_NOTES. The only remaining problem we are aware of is that TALK is not working. We are waiting on an upgrade tape for our TCP/IP package which will correct that problem. If you discover any other problems, please send mail to the OPERATOR account.
- **Ada 2.2 installed** — Ada 2.2 has been installed. The new features are described in the file SYSSHELP:ADA022.RELEASE_NOTES.
- **Zoo 2.1 installed** — A new version of the compression utility "Zoo" has been installed. Enhancements include improved compression, better internal help, VMS timestamp preservation, and faster uncompression. HELP ZOO hasn't been updated to reflect the changes yet, but soon will be.
- **ANU News notice** — ANU will be unavailable while sol.acs.unt.edu is down for standalone backups (since that's where the news server lives). ANU downtime should usually be around 2am Saturday, but since there is a problem with the automated standalone backups, they'll be done manually during the day on Saturday.

- **New BITNET routing** — the BITNET routing for the Denton area has changed. UNTVAX already had connections to UTDAL and UTARL outside of Denton. Links have been added to RICEVM1, TAMNET, and UTDALLAS. The UTDALLAS link is primarily for the high volume of LISTSERV traffic. The TAMNET link handles the routing between Texas A&M and Denton area which has typically been high use. RICEVM1 is handling all out-of-state traffic. Also, the UTDAL and UTARL links have been converted from DECnet to TCP.

At the current time, some unusual routes may exist since all the tables were modified by hand. These changes will be in the next set of BITNET routing tables. The nodes affected in Denton are UNTVAX, UNTMUSIC, UNTVM1, and TWU.

These routing changes should lead to improved BITNET responsiveness for the Denton area. On average, we are one hop closer to most BITNET nodes.

- **VMS irc client installed** — A VMS irc client has been installed in SYSSUTILITY. To use irc, just type IRC at the \$ prompt. It would be appreciated if users who have their own IRC clients would delete them in favor of the one installed. Also, the default server is sol.acs.unt.edu. This version of the client does not check for an IRC-SERVER logical, and does not allow you to specify a server on the commandline. The reason for this is to reduce redundant traffic over the Internet. Send questions, comments, suggestions, and bug reports to CGW.
- **NewsGroup Name Change** — ANUNews_LOCAL_QUESTIONS_AND_ANSWERS was originally going to be changed to unt.news.QandA. Due to some technical problems, this name is im-

possible. The newsgroup is instead being called unt.news.discussion.

- **LIBTEL command** — The LIBTEL command offers a menu-driven way to access some of the Internet libraries. This utility does not include all of the libraries available on the Internet, but does include most of the major ones. If you need a full listing of the Internet libraries and how to access them, the complete list is available in the ISB 110 and Willis labs as well as several other locations around campus.

- **TCP/IP Software Upgraded** — The TCP/IP software has been upgraded, and due to changes in the software, you may need to change how you use some of the TCP/IP utilities.

TELNET now always spawns a subprocess and no longer returns control to the parent subprocess. What this means is that if you use SPAWN telnet <hostname> (or <symbol> := ...), you will feel that this is wrong. That was a bug (a.k.a. "misfeature"), and TELNET no longer acts this way (which, in general, means that SPAWN telnet <hostname> is largely useless now, and should be avoided. SPAWNING TELNETs creates unnecessary system overhead, and is not endorsed by the administrative staff.)

CTRL-O now suppresses output from the remote host more quickly.

CTRL-T within TELNET is now passed to the remote host.

You can now use TELNET to telnet to symbolic destination ports. (eg: TELNET <hostname> FTP will open a telnet connection with port 21 (the ftp port)).

Other, less impacting changes were made as well. Most of them affected FTP, and are technical in nature.

Questions/comments/problems: send mail to OPERATOR.

- **MOST file reader utility installed** — MOST is a 'more'-like utility. It

has some nifty features. Type MOST filename h for help. To use MOST, put this in your LOGIN.COM:

\$ MOST := \$SYSSUTILITY:MOST

Other "more-like" utilities are in the SYSSUTILITY directory and can be used similarly. Questions/comments/problems to OPERATOR.

Significant Solbourne Summer Events

- **WAIS** — Wide Area Information Servers (WAIS) is a distributed client/server database system that runs across the Internet. Databases on *The Bible*, the *CIA World Factbook*, Poetry, RFCs, *Internet Resources Guide*, and Internet libraries are just a few examples of what is available. The ASCII interface is invoked with the waissearch command. See man waissearch for more details. The ASCII interface — at the moment — leaves a lot to be desired, but a menu-driven version should be out in the near future. The X window interface is accessed through the program /usr/local/bin/X11/xwaisq.
- **SunOS v4.1 installed** — SunOS v4.1 has been installed. Since this was required to be an install nd not an upgrade, the ride was a little bumpy. Please bear with us and immediately report to operator any problems you encounter.
- **FTPTIME program** — A program called FTPTIME has been installed. It tells you whether or not it is a good time to FTP a file. To use it, type ftptime nodename.
- **New irc client installed** — ircII 2.1.3b has been installed. Depending on how much of a hard-core ircII user you are, you may need to change your .ircrc. If you use ircII and something doesn't look right under the new version, send mail to cgw@sol.acs.unt.edu, and I'll help you with making the changes. To use the new client, just type irc.

- **Archie client** — Archie is a database of a large number of anonymous FTP sites and what files are available at them. Previously, archie was only accessible by TELNET. We now have a client program on the Solbourne called **archie**. Type **man archie** for more information.
- **Solbourne Manuals** — A complete set of Solbourne user manuals is now available in the ISB 110 Lab.
- **Help** — You can now enter the command **help** for a brief listing of the most commonly used UNIX commands. Usage for the **man** utility is also displayed. As noted by help, a more complete introduction can be obtained from the handout "An Introduction to UNIX" located at ISB 119.
- **GNU C and GNU C++** — GNU C 1.40 and GNU C++ 1.39.1 have been installed on the system. GNU C is an ANSI C compiler which can be invoked using the command **gcc** at the prompt.

For information on the command line options for **gcc** see **man gcc**.

The GNU C++ compiler is compatible with ATT release 2.0. However, the library included with this compiler, **libg++**, is not completely up to date with 2.0 specs. This library is more inline with ATT release 1.2. For example, **libg++** does not contain the header files **<iostream.h>**, **<fstream.h>**, and **<sstream.h>**, just to name a few. Instead, files like **<stream.h>** and **<Filebuf.h>** are pro-

vided. For more information, see **man g++** and **man libg++**. To invoke the GNU C++ compiler, use the command **g++**.

- **News changes** — The campus news server has been moved from **solo.csci.unt.edu** to **sol.acs.unt.edu**. Do not be surprised if you see "new" messages that you have already read since all "read message counters" had to be reset.

As of Tuesday, 6/11/91, ANU was re-configured to read news from the Solbourne. You should have no difficulties other than having some old news appear as unread one time as ANU synchronizes with the new message numbers as kept on the Solbourne.

- **libtel Command** — The **libtel** command offers a menu-driven way to access some of the Internet libraries. This utility does not include all of the libraries available on the Internet, but does include most of the major ones. If you need a full listing of the Internet libraries and how to access them, the complete list is available in the ISB 110 and Willis labs as well as several other locations on campus.
- **Dot Matrix Printing** — The Solbourne has been connected to the Epson FX-850 dot matrix printers in ISB 110. These printers can not handle large volume printouts. If you have a large printout, please FTP it over to the VAX and then print it from there.

Also, there are no facilities in ISB 110 for storing printouts. Therefore, all printouts must be picked up immediately. Also, we make no guarantees about what font, pitch, etc has been select on the printer.

More printers will be made available to the Solbourne in the future.

To print to these printers, use the command **lpr filename**. To check the status of the job, type **lpq**.■

ACS Offers Workstation Consulting

By Billy Barron, VAX/UNIX Systems Manager

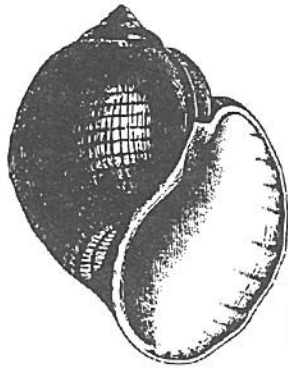
The VAX/UNIX Operations division of Academic Computing Services offers many user support services related to most popular brands of Sun/Solbourne and VMS workstations as well as X-Terminals. Other brands of UNIX workstations will be consulted on as time permits. For the exact list of hardware and software supported, see the "UNT Supported Computing Items List" or contact Academic Computing Services (ACS).

Before the purchase of a workstation, ACS will be happy to help you select the model and configuration of workstation that best fits your needs. The university has a few software site license contracts in place that can save you money. Also, we can interface with the vendor for you. Finally, we are willing to assist in the writing of bid specifications. After installation, ACS will provide software support on some software packages especially in the SPARC environment.■

Log On When?

This anecdote was posted some time ago to the BITNET VM utilities discussion list (VM-UTIL) by Philip Howard (PHIL@UIUCVMD).

Once ran into a user who's watch was several minutes behind. She just got her new account and tried to log on. She kept logging off and later logging back on. After she complained to the consultant, it was soon figured out that she read the message: LOGON AT 12:16:10 CDT FRIDAY 07/28/89 as an imperative to her. She glanced at her watch and thought: "oh, ok, that's only 5 minutes from now" And proceeded to log off and waited to try again later. She got suspicious after this repeated about 6 times. ■



The UNIX Shell

By Marc St.-Gil, UNIX Systems Programmer (mstgil@sol.acs.unt.edu)

Hello! And welcome back to The UNIX Shell. In this month's column I am going to discuss first time user information. At the end of this column you will find a complete index to past columns. But first, an announcement.

Academic Computing Services has purchased a Sun Software Support Limited Support Site License. This contract allows us to more fully meet the emerging needs for UNIX support on our campus. Any new or existing Sun workstation on campus can benefit from the reduced cost of yearly operating system software maintenance contracts built on our site license. For more information on the details of this contract and how it can help you save money on maintenance costs, please call or contact me at any of the addresses listed at the end of this column.

The first thing you are going to need to know as a new user of Sol, Academic Computing Services Solbourne UNIX system, is how to use the information on your User-Id Assignment Notice to log into the system once at the "login:" prompt. Although the information printed on the form is in uppercase letters, the actual information stored on Sol is in lowercase. Therefore if your User-Id Assignment Notice indicates that your userID is IA00 and the password is ABFD20, you should enter ia00 at the "login:" prompt and abfd20 at the "password:" prompt. Once you

have successfully logged in, take a moment to change your password. I highly recommend a password with a mix of letters, numbers, and other characters, but remember that only the first eight characters are used. One way to come up with a good password is to use the first letter of each word in a memorable phrase. For example, the phrase "Four score and seven years ago..." might remind you of a password like "4s&7ya". Similarly,

"A stitch in time saves nine" might come out as "Asits9.". Now since these are published examples, please don't use them. It shouldn't be too difficult to come up with your own. The best phrases are those that have a comma or other punctuation in them that you can incorporate into your password.

The next thing you should know about UNIX is that UNIX is "case sensitive." That means that UNIX differentiates between upper and lower case letters. Therefore the file named test, the file named TEST, and the file named Test are all different files. This is one of the things about UNIX that is different from VAX/VMS and MS/PC-DOS which are "case insensitive."

Sol has to help programs installed. The first is a local utility called help written by one of our operators. Just type "help" to get into the help command. The second is a somewhat enhanced version of the traditional UNIX man command. To use man type "man topic" where topic is the name of the topic you are interested in. For example, to get help on using the man command, type "man man". If you need any further assistance, you may send e-mail to the operator account or call the system operator at 565-4161.

Index to subjects covered in previous Benchmarks columns:

March 1991 (V12#3) - First UNIX Shell column. UNIX conventions, setting up a mail signature, deleting files with strange file names, and mysterious stopped jobs.

April 1991 (V12#4) - Using folders in the elm electronic mail program.

May 1991 (V12#5) - Using the nn USENET news reading program.

All I Really Need to Know I Learned from My Computer

From rec.humor.funny. Based on the first chapter of the book All I Really Need to Know I Learned in Kindergarten. Composed by Ann Gordon (anng@caenjengin.umich.eng). CAEN labs are the computer labs for engineering students at the University of Michigan.

All I really need to know about how to live and what to do and how to be I learned right here in the CAEN labs. Illumination was not at the top of the graduate school mountain, but right there in front of the computer monitors. These are the things I learned. Everything you need to know is here somewhere:

1. Share all your executables.
2. Pay for your shareware.
3. Don't hit the computer.
4. Back up files after you have found them.
5. Clean up your own messy desktop.
6. Don't copy software that is not yours.
7. Make a smiley when you send someone a nasty message.
8. Wash your hands before you type.
9. Flush your buffers.
10. M&Ms and a cold can of Coke are good for you.
11. Live a student's life — learn some and think some and MacDraw and IPaint and Readnews and play Tetris and hack every day some.
12. Take a break every two hours from staring at the terminal.
13. When you go out in the world, watch out for network traffic, hold connections and stick together.
14. Be aware of wonder. Remember the little bytes in the chip: The code goes in and the graphics come out and nobody really knows how or why, but computers are all like that.
15. Pets and Lisas and DN350s and even the little bytes in the chip all die. So do we.
16. And then remember the Computer Reference Manuals and the first command you learned — the biggest command of all — Quit. ■

June/July/August 1991 (V12#6) - Input and Output redirection. ■

MAINFRAME TECHNICAL SERVICES

Mainframe Performance Statistics

Operating Systems Performance Statistics for May

CPU	SYSTEM	Planned Production Hours	Production Hours Achieved	System Uptime
ACAD	VM/XA	744.00	741.09	99.6%
ACAD	MUSIC/SP	722.70	719.19	99.5%
ACAD	MVS/JES2	744.00	735.86	98.9%
ACAD	COMPLETA	732.51	723.86	98.8%
ADMN	MVS/JES2	744.00	742.92	99.9%
ADMN	COMPLETA	311.00	310.42	99.8%
ADMN	ADABASA	705.02	687.35	97.5%

Key Causes Of Lost Productivity In May: ACAD CPU

Miscellaneous

1. VM/XA systems software development. 3.69 HOURS
2. MVS/SP systems software development. 2.54
3. Undetermined causes for systems restarts. 2.42
- TOTAL 8.65 HOURS

Key Causes Of Lost Productivity In May: ADMN CPU

Miscellaneous

1. ADABASA DASD file maintenance. 16.02 HOURS
2. ADABASA system conversion to Release 5. 13.57
3. ADABASA system failures. 1.35
4. MVS/SP software development. 0.67
- TOTAL 31.61 HOURS

Operating Systems Performance Statistics for June

CPU	SYSTEM	Planned Production Hours	Production Hours Achieved	System Uptime
ACAD	VM/XA	720.00	716.33	99.5%
ACAD	MUSIC/SP	699.38	695.15	99.4%
ACAD	MVS/JES2	720.00	711.23	98.8%
ACAD	COMPLETA	709.39	699.43	98.6%
ADMN	MVS/JES2	716.94	706.92	98.6%
ADMN	COMPLETA	280.00	272.37	97.3%
ADMN	ADABASA	686.07	670.28	97.7%

Key Causes Of Lost Productivity In June: ACAD CPU

Miscellaneous

1. VM/XA systems software development. 3.34 HOURS
2. VM/XA autolog failure during VM restart. 2.15
3. Resolving expired passwords on VM/XA subsystems during VM restart. 2.12
4. Resolving failure of CASORT product during restart of MVS/JES2. 1.57
5. ADABAS DASD file maintenance. 0.78
- TOTAL 9.96 HOURS

Operating Systems Performance Statistics for July

CPU	SYSTEM	Planned Production Hours	Production Hours Achieved	System Uptime
ACAD	VM/XA	744.00	742.92	99.9%
ACAD	MUSIC/SP	721.67	720.25	99.8%
ACAD	MVS/JES2	744.00	739.25	99.4%
ACAD	COMPLETA	733.42	728.27	99.3%
ADMN	MVS/JES2	744.00	743.43	99.9%
ADMN	COMPLETA	326.00	342.32	99.5%
ADMN	ADABASA	712.98	712.01	99.9%

- The ACAD CPU achieved 100% uptime in May, June & July; The HDS/7360 DASD achieved 100% uptime in May, June & July; The HDS/7380 DASD achieved 100% uptime in May, June & July.
- The ADMN CPU achieved 100% uptime in May, June & July; The HDS/7360 DASD achieved 100% uptime in May, June & July; The HDS/7380 DASD achieved 100% uptime in May, June; The EMC Solid State Disk achieved 100% uptime in May, June & July. ■

MAINFRAME TECHNICAL SERVICES

Key Causes Of Lost Productivity In June: ADMN CPU

MPU, Tape, and Disk Subsystems (HDS)

1. Preventive maintenance on 8083 MPU and DASD.	3.70
2. ADABAS DASD file maintenance.	1.15
TOTAL	4.85 HOURS

Miscellaneous

1. MVS/SP systems software development.	4.51 HOURS
2. Emergency shutdown of ADMN system due to partial failure of air conditioning system.	3.73

3. Corrective maintenance of NCR 3690 TCU.	3.60
4. ADABAS system failure.	1.63
5. Restart of MVS/JES2 after repair of the IBM 3044 fiber optics controller.	1.42
6. Undetermined causes for systems restarts.	1.08
TOTAL	15.97 HOURS
GRAND TOTAL	20.82 HOURS

Key Causes Of Lost Productivity In July: ACAD CPU

Miscellaneous

1. VM/XA systems software development.	2.25 HOURS
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2. MVS/SP systems software development.	1.65
3. Undetermined causes for systems restarts.	1.25
TOTAL	5.15 HOURS

Key Causes Of Lost Productivity In July: ADMN CPU

Miscellaneous

1. Undetermined causes for systems restarts.	1.68 HOURS
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ACADemic (HDS) Program Hit Parade

May Top Ten Programs : Frequency Of Runs

Program	Description	#of Runs	% of Total
1. ADARUN	ADABAS Utility Module	7294	20.5
2. IEBGENER	IBM Utility	4487	12.6
3. PGM=*.DD	Compiled Program	3039	8.5
4. IDCAMS	VSAM Utility	2822	7.9
5. IEWL	Linkage Editor	2817	7.9
6. P02304	Natural Program	2490	7.0
7. SASLPA	SAS Version 5.18	2340	6.6
8. SPSS	SPSS Version 4.0	1862	5.2
9. IGYCRCTL	VS COBOL2 Compiler	1205	3.4
10. SPCHLCOB	COBOL2 Report Writer	1072	3.0

May Top Ten Programs: CPU Seconds Used

Program	Description	CPU Seconds	% of Total
1. SAS370	SAS Version 6.06	233139	54.7
2. COMPLET4	Academic COM-LETE	81988	19.2
3. SASLPA	SAS Version 5.18	30599	7.2
4. ADARUN	ADABAS Utility Module	18941	4.4
5. SPSS	SPSS Version 4.0	18606	4.4
6. LOADER	System Loader	9043	2.1
7. PGM=*.DD	Compiled Program	8447	2.0
8. P02304	Natural Program	4820	1.1
9. SS4001	Operations Automation	4786	1.1
10.SPCHLCOB	COBOL2 Report Writer	3805	0.9

June Top Ten Programs : Frequency Of Runs

Program	Description	#of Runs	% of Total
1. IEWL	Linkage Editor	5091	19.2
2. PGM=*.DD	Compiled Program	5056	19.0
3. IEBGENER	IBM Utility	3547	13.4
4. IKFCBL00	VS COBOL Compiler	2408	9.1
5. SASLPA	SAS Version 5.18	2335	8.8
6. FORTVS	VS FORTRAN	1536	5.8
7. SPSS	SPSS Version 4.0	1172	4.4
8. IGYCRCTL	VS COBOL2 Compiler	1097	4.1
9. ADARUN	ADABAS Utility Module	634	2.4
10. CSMA001	Sort Utility	510	1.9

June Top Ten Programs: CPU Seconds Used

Program	Description	CPU Seconds	% of Total
1. SASLPA	SAS Version 5.18	153315	46.6
2. SAS370	SAS Version 6.06	109454	33.3
3. PGM=*.DD	Compiled Program	29981	9.1
4. COMPLET4	Academic COM-LETE	8495	2.6
5. SPSS	SPSS Version 4.0	6102	1.9
6. SS4001	Operations Automation	5499	1.7
7. ADARUN	ADABAS Utility Module	3768	1.1
8. IKFCBL00	VS COBOL Compiler	2256	0.7
9. ISTINM01	VTAM Utility	1564	0.5
10.IGYCRCTL	VS COBOL2 Compiler	1344	0.4

MAINFRAME TECHNICAL SERVICES

July Top Ten Programs: CPU Seconds Used

Program	Description	CPU Seconds	% of Total
1. SAS370	SAS Version 6.06	363453	58.5
2. SASLPA	SAS Version 5.18	160479	25.9
3. PGM=*.DD	Compiled Program	28126	4.5
4. IGYCRCTL	VS COBOL2 Compiler	12692	2.0
5. SPCHLCOB	COBOL2 Report Writer	11609	1.9
6. SPSS	SPSS Version 4.0	7590	1.2
7. COMPLET4	Academic COM-LETE	7534	1.2
8. SS4001	Operations Automation	7096	1.1
9. IEWL	Linkage Editor	4532	0.7
10. ADARUN	ADABAS Utility Module	3542	0.6

July Top Ten Programs : Frequency Of Runs

Program	Description	#of Runs	% of Total
1. PGM=*.DD	Compiled Program	17212	18.1
2. IEWL	Linkage Editor	16901	17.8
3. IEBPTPCH	IBM List Utility	15598	16.4
4. IGYCRCTL	VS COBOL2 Compiler	11567	12.2
5. IEFBR14	IBM Null Utility	9432	9.9
6. IEBGENER	IBM Utility	6238	6.6
7. CASMA001	Sort Utility	3719	3.9
8. SPCHLCOB	COBOL2 Report Writer	3318	3.5
9. SASLPA	SAS Version 5.18	2799	3.0
10. IKFCBL00	VS COBOL Compiler	1632	1.7

Disk Backup Schedules

SYSTEM	BACKUP	DESCRIPTION
Administrative MVS/SP	Daily	Monday - Friday around 7 p.m. (after COM-LETE is shut down) & on Saturday & Sunday if COM-LETE has been up that day.
	Weekly	Full pack dumps taken each Sunday morning.
	Monthly	Full pack dumps taken on the first day of each month.
Academic MVS/SP	Daily	Monday - Sunday during the early hours of the morning.
	Weekly	Full pack dumps taken each Sunday.
	Monthly	Full volume dumps taken on the first day of each month.
MUSIC/SP	Daily	Wednesday - Monday starting at 4 a.m. and lasting about 30 minutes.
	Weekly	Tuesday mornings at 3 a.m., these last about 2 hours.
	Semester	Once a semester, a permanent backup is taken.
VM/XA	VM Weekly	Early every Wednesday morning.
	CMS mini-disks	Daily backup performed early every morning. Weekly backup every Tuesday starting after Midnight.
	Semester	Once a semester, a permanent backup is taken.
VAXcluster	Daily	Incremental backups are performed Monday -Thursday at 6 p.m. Saturday & Sunday at 5 p.m.
	Weekly	Full backups are performed every Friday beginning at 8 a.m. generally last all day.
	Monthly	A "stand alone" backup is performed monthly. Dates and times are given in the system log-on message.
	Semester	Once a semester, a permanent backup is taken.
Solbourne	Daily	Incremental backups are performed Sunday -Friday at 2 a.m.
	Weekly	Full backups are performed every Saturday at 8 a.m.
	Semester	Once a semester, a permanent backup is taken.

A full description of the system backup procedures can be found by typing **HELP BACKUP** on MUSIC or the VAXcluster.

Computing Center Short Course Registration Form

Please complete this form and return it AS SOON AS POSSIBLE if you wish to attend any of the short courses listed below. You may also register over the phone by calling (817) 565-2324. **FACULTY AND STUDENTS HAVE FIRST PRIORITY TO REGISTER FOR THESE CLASSES. A VALID USER-ID IS REQUIRED FOR CLASSES MARKED WITH AN ASTERISK (*).**

NAME: _____

FACULTY ____ STAFF ____ STUDENT ____

DEPT: _____

UNDERGRADUATE ____ GRADUATE ____

PHONE: _____

MAILING ADDRESS: _____

SSN: _____

USER-ID: _____

Staff: SUPERVISOR SIGNATURE: _____

I wish to attend:

• **Introduction to IBM JCL (ISB 123):**

____ Tuesday, September 17: 3:00-5:00 p.m.

____ Wednesday, November 20: 2:00-4:00 p.m.

• **Introduction to SPSS (ISB 123):**

____ Wednesday, September 11: 1:00-4:00 p.m.

• **Intro. to the Internet (ISB 123):**

____ Tuesday, November 12: 3:30-5:00 p.m.

• **Introduction to UNIX (ISB 110)*:**

____ Tuesday, October 15: 3:00-5:00 p.m.

• **Intro. to SAS on UNIX (ISB 110)*:**

____ Tuesday, November 16: 4:00-5:00 p.m.

• **Introduction to SPSS PC+ (ISB 110):**

____ Thursday, September 19: 2:00-5:00 p.m.

• **Introduction to CMS (ISB 110)*:**

____ Tuesday, September 3: 3:00-5:00 p.m.

____ Wednesday, October 2: 10:00 a.m.-Noon

____ Tuesday, November 5: 3:00-5:00 p.m.

• **Introduction to VAX/VMS (ISB 110)*:**

____ Tuesday, September 24: 3:00-5:00 p.m.

• **Intro. to WP 5.1 for Students (ISB 110):**

____ Tuesday, October 29: 2:00-5:00 p.m.

• **Intro. to DOS for Students (ISB 110):**

____ Wednesday, September 18: 2:00-4:00 p.m.

• **Intro. to Procomm+ (ISB 123):**

____ Thursday, September 12: 3:00-4:00 pm

____ Monday, November 4: 2:00-3:00 p.m.

• **Introduction to SAS (ISB 110)*:**

____ Thursday, September 5: 2:00-4:00 p.m.

• **Introduction to BITNET (ISB 123):**

____ Thursday, October 24: 3:00-5:00 p.m.

• **Introduction to vi (ISB 110)*:**

____ Thursday, October 17: 4:00-5:00 p.m.

• **Introduction to USENET (ISB 123):**

____ Monday, November 18: 4:00-5:00 p.m.

• **Introduction to SAS PC (ISB 110):**

____ Monday, September 16: 4:00-5:00 p.m.

• **Intro. to Micro Labs (ISB 110):**

____ Tuesday, September 3: 9:30-10:30 a.m.

____ Wednesday, September 4: 3-4:00 p.m.

____ Monday, September 9: 11:00 am-Noon

• **Intro. to SAS on CMS (ISB 110)*:**

____ Tuesday, September 10: 3:00-4:00 p.m.

• **Intro. to CUTCP/Telnet (ISB123):**

____ Thursday, November 14: 3:00-5:00 p.m.

• **Intro. to DOS: Students (ISB 110):**

____ Thursday, November 7: 9:30-11:30 p.m.

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